IN THE CIRCUIT COURT OF THE THIRTEENTH JUDICIAL CIRCUIT
OF THE STATE OF FLORIDA IN AND FOR HILLSBOROUGH COUNTY
CIVIL ACTION DIVISION

FLOYD J. KENYON, SR. and FLORENCE
KENYON, his wife,
Plaintiffs,

Case No. 00-5401
-vs- Division: "D"
R.J. REYNOLDS TOBACCO COMPANY, a
foreign corporation,

Defendants.
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TRANSCRIPT OF PROCEEDINGS

BEFORE: THE HONORABLE HERBERT BAUMANN
Circuit Judge
TAKEN AT: Courtroom Number 1
Hillsborough County Courthouse
Tampa, Florida
DATE: 28 November 2001
TIME: Commencing at 9:00 a.m.
REPORTED BY: Mary Elizabeth Blazer, RPR
Notary Public, State of Florida

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ALSO PRESENT:

FLOYD J. KENYON, SR. (Plaintiff)
FLORENCE KENYON (Plaintiff)
APRIL GEORGE (Paralegal to Mr. Acosta)
DAN DONAHUE (Corporate Rep. of R.J. Reynolds)
CHARLES WRIGHT (Technical Assistant - R.J. Reynolds)
STEVE BERESHEIM (Technical Assistant - R.J. Reynolds)

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(9:08 a.m.) P R O C E E D I N G S

THE BAILIFF: All rise. Circuit civil Division "D" is now back in session.

THE COURT: You may be seated.

MS. PARKER: Good morning.

THE COURT: Good morning, Ms. Parker, Mr. Acosta.

MR. ACOSTA: Good morning.

THE COURT: Mr. Fuhrman, Mr. Maxwell, Mr. Denson.

MS. PARKER: Your Honor, if I may --

THE COURT: Yes.

MS. PARKER: -- just very briefly, just a couple of things Mr. Acosta and I have already talked about.

One is yesterday Mr. Acosta announced that the biopsy report was positive. And we already had an outstanding subpoena over there and we got a copy and it doesn't say positive. It says compatible, which is something different. And so, Mr. Acosta says he's going to get to the bottom of it and figure out what's going on. I just wanted to let Your Honor know that was an issue that's outstanding.

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MR. ACOSTA: Can I respond for a second?

MS. PARKER: Sure.

MR. ACOSTA: Mr. Kenyon is starting chemotherapy, I think, Friday, and so, I don't know if that was a preliminary report or not, but we'll see what we can find out. But we know he's going to have chemo and he was told that it was positive, and consistent with is positive in my books.

I haven't seen the report, they haven't shared a copy of the report with me.

THE COURT: I'm sure you'll -- well, but at this point, I'm sure you'll see the report.

My only observation yesterday was, you know, newly discovered evidence or newly acquired evidence -- not discovered in this case, just newly required, in your direct case requires my authorization to enter into evidence. So, you can't do that in front of the jury.

But the scope of cross-examination was somewhat broader, and that was my only observation. Nonetheless, new evidence that

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was not evidence prior to the close of discovery still needs some kind of review by the Court before its used. But, just so, you know, both sides knew, cross-examination -- I mean, I consider cross-examination -- the latitude given to just ask questions of a witness during cross is somewhat broader than you would be permitted to have in your case in chief. So --

MS. PARKER: All right. I just wanted to bring that to Your Honor's attention.

The second thing that's kind of related to that, there was an article in the paper this morning about some kind of new, I think they called it a study of low tar and nicotine cigarettes. Mr. Kenyon didn't smoke those, but nonetheless there was an article in the paper. And I asked Mr. Acosta if he was going to use the newspaper article in any way because Dr. Townsend has been imprisoned in the hotel here as our witness, so he obviously -- we can ask him, I assume he has not seen -- read the report that came out yesterday. And I want to make sure that that's not raised in front of the jury.

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MR. ACOSTA: Well, I don't know. I wasn't going to -- going to flash the newspaper article in front of the jury, but it's a fairly big article, and it was on CNN last night on every -- every hour when they showed the news.

So -- but it's -- I think it's a -- depending upon what kind of answers I get, it -- I don't plan on introducing the newspaper article or anything like that, so it wouldn't -- it isn't going to happen that way.

MS. PARKER: Your Honor, my only point is it's just unfair for our witness, who is in the middle of his testimony, to be asked something about a study that came out, that there's no way, since he's down here in Tampa, that he could have read, studied and be prepared to address. Just asking him if he's done it is just not fair to the witness.

THE COURT: Well, by that -- I take it he didn't author the study, he didn't participate in the study.

MS. PARKER: (Indicating negatively).

THE COURT: I mean, you know, those would be -- you know, if some of those

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questions were responded to affirmatively, that would be a difference --

MS. PARKER: That's not the case.

THE COURT: But clearly --

MR. ACOSTA: It's difficult for me to do this because Dr. Townsend is sitting here listening to this, which is --

THE COURT: Well, you don't have to do anything. All I'm -- my only observation --

MR. ACOSTA: She's basically telling him what he doesn't know right now. And I object to that. I object to that.

THE COURT: I don't know what he doesn't --

MR. ACOSTA: So I -- I don't think that that's fair.

THE COURT: Now he knows it, though; by being told what he doesn't know, he now knows it.

MS. PARKER: You can ask him -- you can ask him if he read it.

THE COURT: It's -- but here's the thing: On cross-examine, there's a broad -- you know, cross-examination can be very broad. And -- and, Mr. Acosta will be given a lot of

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latitude in asking questions.

Obviously, if -- you know, depending upon the answer given by the witness, will depend how far Mr. Acosta can go or can't go, you know. You know, you can certainly ask -- he can -- he -- his ability to ask questions is -- is -- you know, he can ask questions. What the witness can respond to is, you know, I -- only the witness knows what he doesn't know.

MS. PARKER: Your Honor, my only point is before Mr. Acosta says to the witness in front of the jury, did you read the study that came out yesterday, I would like a limit to approach -- that question itself is unfair to the witness because, you know, Your Honor has instructed him not to discuss his testimony or anything. He's been down here -- he's in the middle of his testimony.

THE COURT: I'm not -- I'm not going to -- I'm not going to limit Mr. Acosta in that -- I'm not going to limit Mr. Acosta's cross-examination.

By the same token there has to be a better -- I don't know what -- I don't know

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what -- if the study has a formal name, but, you now, I -- when you're referring -- you know, you've been referring -- as you've been referring to in the past, identify -- you know, it was a report of this time or that time.

MR. ACOSTA: Yes, Your Honor.

THE COURT: -- whatever the case may be.

MR. ACOSTA: I will -- I will be careful in the way I approach this.

THE COURT: All right.

MS. PARKER: Thank you, Your Honor.

THE COURT: You ready, Mr. Acosta?

MR. ACOSTA: I believe we're ready -- excuse me.

MR. DENSON: What's our schedule for today? The jury is leaving at one?

THE COURT: The jury is leaving at one, we'll probably take an hour break and then we'll come back and I understand there's some exhibits --

MS. PARKER: Yes, Your Honor.

THE COURT: -- that -- I want to address the timetable issue, so that we can

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understand where we are in the midst -- in the presentation of defendant's case, how much, ballpark, time plaintiff will need for rebuttal, if any.

But how much Mr. Acosta is going to give -- I'm going to get a ballpark, try to figure out what we're going to do witness-wise. Figure -- we're not going to be in session Monday. I'm thinking about Tuesday --

I'll probably -- I will -- originally, I was going to be at circuit conference Monday and Tuesday. I'm still -- I still have travel plans for that, so -- but I want to hear where we are in the defendant's case.

It sounds like -- I thought we were going faster -- my impression is we were -- we were moving -- making some headway, but I don't know that we've gone as quick as we thought we were going to do, so --

MR. DENSON: Are we going to be addressing the directed verdict issues?

THE COURT: I want to -- well, here's what I'm trying to address. In a way, I'm trying to address two things. But, yes, the

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question is yes.

But really, what I'm trying to get to is the Carter jury instruction on strict liability, for lack of a more precise definition, has a couple of different instructions. I know Mr. Maxwell was present when that instruction was formulated.

My particular question on the -- on the direct -- the directed verdict overlaps into this is the specific instruction on 4215 that gives a four-part test for the jury to consider.

I'm trying to determine, A, if plaintiffs' are seeking -- A, if in this case plaintiffs are seeking that instruction. And B, then evaluate whether there's sufficient evidence to move forward on that instruction.

My big -- Ms. Parker's got some issues that I want to address on each of those elements, but the one element I wanted to specifically address was the third element of that test.

Because the third element of that test discusses plaintiffs' use of alternate designs -- or actually would have used -- whether

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plaintiff would have used alternate designs. There's testimony on that that indicates he was not going to use alternate -- he didn't seek that out, but at the same time, he changed cigarettes. I mean, he did use an alternate design, for whatever reason.

So, I just --

MR. MAXWELL: If I could just briefly respond, Your Honor, or outline a historical aspect of this. I was --

THE COURT: Are you going to be here this afternoon or are you going to take a --

MR. MAXWELL: I will. And we can address it later.

THE COURT: We'll just do it then.

MS. PARKER: There's one more matter, very, very briefly before the jury comes in.

I understand the Your Honor's ruling and what Your Honor said about not limiting Mr. Acosta's cross, but may I ask this: Would it be appropriate for Dr. Townsend to be voir dired outside the presence of the jury without that -- whatever it is, before Mr. Acosta says something in front of the jury?

THE COURT: Well, let's just approach

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on this just for a second. And Dr. Townsend, why don't you just step in the jury room. Okay.

(Thereupon, the following discussion was had at the bench out of the hearing of the Jury:)

THE COURT: Here's the thing: Mr. Acosta can ask, are you aware of whatever. I mean, he can ask that, whether it came out yesterday, whether it was in process of being -- whether there was a study undertaken. He can ask all those questions.

I don't know what this witness is going to say. Obviously, if the report came out yesterday, he can't say anything, I would assume. I don't know. But I would assume he's going to say it came out yesterday -- came out yesterday, I've been in Tampa, I'm sure it's on my desk at the office, something like that.

Then -- then Mr. Acosta -- I don't know where Mr. Acosta can possibly go after that.

But my point is, Mr. Acosta, can ask -- I mean, he's the head -- he's the head -- vice president of research with a major tobacco

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company. And it's appropriate to say, are you aware of this? You know, if it came out today, he can ask that because that's within the nature of his job. I mean, he is -- he ought to be -- I mean, he ought to be aware of that type of --

MS. PARKER: I understand what Your Honor is saying.

THE COURT: Right.

MS. PARKER: Can ask one thing? Just Mr. Acosta -- I don't know what the study is, whether it's described in the newspapers here -- Mr. Acosta said the study came out yesterday and he's not going to know -- I don't believe he's going to be able to respond.

And Mr. Acosta said, and I think that is -- and it talks about it -- he's at the Downtown Hyatt in his room.

THE COURT: Well, he can -- you can --

MS. PARKER: So he can just ask if there's a study; if you saw the study, that's fine. I want Mr. Acosta to -- whatever the newspaper article said. That's just --

THE COURT: I don't know what the

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newspaper said. See, the problem is I'm not sure -- I don't think --

MR. ACOSTA: I don't think that this is -- I know the defense is concerned, but I don't think that -- that I'm going to go beyond what the Rules of Evidence allow for and I'm not -- I'm not going to inject something into this trial that is going to be prejudicial to the defense, because I don't want to have a mistrial. So, I'm going to be careful.

THE COURT: Well, here's the point. You can certainly say, well, is there -- I mean, I don't have a problem with saying a study about something -- what is it on? What's --

MR. ACOSTA: It's on low tar.

THE COURT: Just say, are you aware of a study on low tar? And if he is -- if he's aware of it, help yourself. You know? You can -- If he's aware of it, you can ask whatever you want. If he's not aware of it, you know, then he's not aware of it.

MR. ACOSTA: I'll be careful.

THE COURT: Okay?

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MS. PARKER: (Nods head)
THE COURT: All right. You can bring in Dr. Townsend and bring the jury in.
MS. PARKER: Our Honor, one more thing very briefly, because of the article --
MR. ACOSTA: I'm sorry?
THE COURT: It was a request for the same limiting instruction I normally give at the end of the day, it's just that preliminary instruction, it's just based on one of the paragraphs of the preliminary.
MS. PARKER: Your Honor, may I approach? This is with respect to these depositions, instruction, standard one.
(Thereupon, the bench conference was concluded.)
(Thereupon, the jury returned at 9:25 a.m.)
THE COURT: You may be seated.
Good morning, ladies and gentlemen, I hope you are all well this morning.
Mr. Acosta, you may continue.
MR. ACOSTA: Thank you, Your Honor.
MS. PARKER: Your Honor, may I move so I can see?

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THE COURT: Yes.

CONTINUATION OF CROSS-EXAMINATION

BY MR. ACOSTA:

Q. Good morning. Good morning, Dr. Townsend.

A. Good morning.

Q. If it please the Court.

Dr. Townsend, I want to ask you a couple of little follow up questions from yesterday before I go into a brand new area.

Is it correct that the Reynolds scientists back in the mid 1950s regarded the epidemiology that was reported by Dr. Teague as very strong?

A. That was reported by Dr. Teague?

Q. Yes.

A. In the 1953 survey?

Q. Yes.

A. I think many did. I think some had questions about the epidemiology. But again, in the early '50s the epidemiology was just really coming to its own. I think there was -- there was gathering strength in the epidemiology.

Q. Isn't it true that the R.J. scientists at the time regarded that as strong epidemiology?

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A. I think I just answered that question.
Q. Well?
A. I think many did, I think some probably had questions about the epidemiology.
Q. Which ones had questions about it?
A. I mean, you've asked me a general question. You know, we can go through and -- and examine documents.
Q. Well, what -- what I'm trying to find out is, you said many did, some probably didn't. And let me -- let me find this from your former testimony and show it to you.
Okay. Would you like me to show you this before I read it to you?
A. That will be fine, sure.
Q. It's 9:25, p.m. at page 164, 165. Starting at line 21, going over here to line three.
A. Okay.
Q. Question: And it says up here, most physicians were not prepared to understand or much less be persuaded by the epidemiological data. That wasn't true for Reynolds scientists; they did understand it and they believed it as early as 1953, isn't that right?
And your answer: I think we

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regarded -- our scientists regarded the strong epidemiology as very strong and there is no question about that.

Did I read that correctly?

A. You did.

Q. The second thing I want to ask you now. Do you agree that Reynolds cannot demonstrate that the cigarette is safe for its intended use?

A. It's clear to me that there's no accepted testing methodology or group of testing methodologies that can prove that one cigarette is completely safe.

Q. Well, I'm asking you, isn't it true that Reynolds cannot demonstrate that the cigarette is safe for its intended use?

A. I think I just answered that question.

Q. Is it true, what I just said?

A. What I said --

Q. Well, can you -- it's either true or it's not, and then you can explain it if you would like to. But I would just like to know if what I just said was true, that Reynolds cannot demonstrate that the cigarette is safe for its intended use?

A. In a general sense, that is a true

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statement.
Q. And one of the reasons you can't do that is because, as I believe you testified, that the cigarette is inherently dangerous?
A. That's exactly what I testified. There are inherent strong risks from any cigarette. No cigarette is safe. And further more there is no way if we develop a cigarette that completely eliminates the risks, for example, some modification of Premiere or Eclipse, there is no way to definitively prove, given the science and lack of consensus about what test is appropriate in the scientific community. There's no way to prove that that cigarette would be completely safe. There is no safe cigarette.
Q. And, you would agree that the government does not regulate the contents of the cigarette?
MS. PARKER: Objection, Your Honor. Pre-empted.
THE COURT: I'll overrule on that motion, Ms. Parker.
THE WITNESS: I don't agree with that statement. It is -- it is somewhat inaccurate. I think the government does not in -- in a controlled regulatory sense

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regulate additives. So in a sense what you said is right, but we do provide lists of all ingredients and additives to the government, to the Department of HHS for review.

And they reviewed it every since they've had the list of all ingredients in all cigarettes in the United States since as early as 1986. They have reviewed those ingredients and have not found any problems with any of them that they've come back and said we've got a problem with this additive.

So in a strict regulatory sense, no, there's not a regulation. We clearly report the use of all ingredients to the government for their review under law.

Q. Well, I -- I don't -- I don't think I asked you if you reported, I just asked you if the government regulates the contents of the cigarette. And as I understand it your answer is no, but we report it, is that --

A. I said there are no strict regulations over what can be used in a cigarette, but there are regulation -- there are laws about reporting what we use to the government for their review.

Q. There is no regulation as to how much

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nicotine is in your cigarette, is there?
A. There are FTC regulations on reporting of nicotine levels, but there's no regulation on the level of nicotine that's permissible or not permissible in a cigarette.
Q. Okay. I'm not asking you about what you report. I'm just asking you about what you may or may not be required to do.
A. I understand and I'm just trying to give an accurate picture.
Q. Okay. But you're not required to put a particular amount or a -- or -- you're not required to -- to put a particular amount of nicotine in a cigarette or take a particular amount out or anything like that, are you?
MS. PARKER: Your Honor, objection, pre-empted.
THE COURT: I'll overrule. Go ahead and answer it.
THE WITNESS: We're not required by regulation to put a certain amount of nicotine or -- or have a certain level of nicotine in the cigarettes, but we are, however, required to report that level.
Q. And no one regulates the level of

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carcinogens in a cigarette either, do they?
A. There are no regulations over constituents in tobacco smoke, or cigarette smoke, other than reporting of tar and nicotine and carbon monoxide.
Q. Nobody regulates the amount of NNN, NNK, the tobacco specific nitrosamines, either, do they?
A. That's the same answer as the last question. There are no regulations over specific constituents, other than tar, nicotine and carbon monoxide reporting.
Q. Okay. Now, I want to ask you a little bit about research.
Would you agree that as of 1976 or so, Reynolds was not conducting any smoke and health research in-house?
A. I would -- I would generally agree with that statement if the definition of smoking and health research were basic biology and medical studies to understand the mechanisms of chronic diseases. We were, however, conducting biological research in-house trying to determine how to compare cigarettes, and show that one cigarette is different than another in some biological assay.

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Frankly, medical Universities are better equipped to conduct that type of basic research in to understanding diseases. So we funded that.

Q. So you were doing something in-house with respect to smoking and health?

A. I think I just answered that question. If the definition -- if your definition of smoking and health is basic research in to how diseases are formed, the answer is no. Because we're not really equipped to do that kind of basic medical research.

We did contracts and work out. What we did do in the area of smoking and health is to try to design cigarettes that might reduce the risks of smoking and then develop comparative biological assays that we could run in the laboratory, with or without animals, so that we could compare two cigarettes, the smoke from two cigarettes and see whether there's any differences and see if we've made progress in our efforts to reduce risks.

Q. Let me -- let me show you a document that's been previously admitted in evidence and was shown to you yesterday, a partial list of questions which may be asked by business analysts on September 20th, 1976, let me show the document, Your

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Honor.
THE COURT: Does it have an exhibit number?
MR. ACOSTA: Yes, it's 693 -- I think it's 693.38 or 42. 42.
THE COURT: You may.
BY MR. ACOSTA:
Q. "Question: Has R.J.R. conducted anywhere research on the health problems which are allegedly caused by smoking?
Under partial list of questions which may be answered asked by business analysts on September 20th, 1976.
Answer number 4. "R.J.R. does not conduct any smoking health research in-house.
Did I read that correctly, Dr. Townsend?
A. You read that correctly. And that's exactly consistent what I just said in responding to your question several times. If the definition of smoking and health research is that basic research, trying to understand how diseases are formed, we did, even in 1976, conduct research to define assays that can evaluate cigarettes to see if we're making progress in reducing the risk of smoking.

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Q. Now, you mentioned, I believe, in earlier testimony that Reynolds used some outside contractors to do some of its work in -- I believe you mentioned that Reynolds was a member of the Tobacco Research Committee; correct?
A. I don't recall mentioning that, but Reynolds was a member of TIRC at one point.
Q. We showed the Frank Statement yesterday. And Reynolds was one of sponsors of that committee; correct?
A. What we said yesterday was that Reynolds signed that document.
Q. Well, it said sponsors, didn't it?
A. I think I just agreed that Reynolds belonged to TIRC at one point.
Q. Okay. And TIRC changed its name eventually to CTR U.S.A; didn't it?
A. Yes.
Q. Same organization?
A. A similar organization. It became the council for tobacco research which funded a large amounts of research in medical universities.
Q. And Reynolds gave some money to the AMA, didn't they?
A. I believe that's correct.

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Q. Back around 1964, '65?
A. I can't remember the dates.
Q. Well, with respect to the TIRC, would you agree that the work that the TIRC did wasn't really relevant to carcinogenesis or cancer and cigarette smoke?
A. No, I don't agree with that. My general understanding of what TIRC and CTR, the Council for Tobacco Research did, was fund research in medical universities, particularly trying to understand the relationship of tobacco smoke exposure and disease. And there were a number of basic research studies that were funded.
Now, that's my general understanding because I don't -- I don't -- I haven't dug into the details of all the research that CTR and TIRC did in fact fund and was published in peer review journals. So I'm really not an expert on CTR and TIRC.
Q. Well, let's dig into it for just a second.
A. Sure.
Q. And I want to show you what's previously been marked as Plaintiff's 2056.
MS. PARKER: May I see that?
MR. ACOSTA: I'll be happy to show you

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a copy if you would like to see it.
THE WITNESS: I would like to see a copy. Thank you.
Q. This was a document marked "Strictly Confidential Report on Policy Aspects of the Smoking and Health Situation in the U.S.A." Dated October, 1964.
And I want to direct you -- I don't know if there's a page number on these -- page 18.
This is a redacted version of this report. It states "Council for Tobacco Research. Dr. A.B. Andarvant of the National Cancer Institute had recently been persuaded by Dr. C.C. Little to join CTR's Scientific Advisory Board. He is the only person to have accepted an invitation to join the board in recent years. Dr. Andarvant told -- I have a little -- CPT that he had expected CTR to be seeking a safer cigarette, as he described it, as a matter of first priority. As we know, CTR supports only fundamental research of little relevance to the present day problems.
And then on page 30, under section 7, the Council for Tobacco Research U.S.A. CTR continues, as before, to confine its research to diseases with which smoking is statistically

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associated, but not to support the research into the product. Pharmacological research into the affects of nicotine is about as close as the research comes to a cigarette.

The Scientific Advisory Board of CTR continues to meet and decide on applications for grants to carry out research on what appeared to us to be projects of no more than remote relevance to current problems. There was either no interest or indeed mention of CTR research amongst the companies".

And I believe if you look on the first page you'll see that these people met with the six major cigarette companies, or at least five of them.

Now do you understand based on the historical information available to you that back in 1964, that the problem was whether or not cigarettes were causing cancer in people?

MS. PARKER: Your Honor, objection, Your Honor's prior ruling about identifying documents.

MR. ACOSTA: I don't understand that, Judge.

THE COURT: Well, just approach for a second. Excuse us ladies and gentlemen.

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Q. Just for the record, Dr. Townsend, this is for your benefit, that is a Philip Morris document, not a Reynolds document.

A. Thank you. I was going to ask you about that. Because I recognized that it wasn't a Reynolds document and I don't think I've ever read this before.

Q. Okay. But what I'm getting is wasn't that the problem that they were suggesting that CTR wasn't looking at back then? Wasn't looking at --

A. What was the problem?

Q. They were not looking at cigarettes and cancer?

A. No, I think you've completely misinterpreted this. What's said in here is entirely consistent with my answer to your earlier question. We at Reynolds were working on cigarettes, on cigarette design, on trying to change the cigarettes to address smoking and health issues. Funding of CTR, and formerly TIRC, and what became CTR, Council for Tobacco Research, was doing basic research, trying to understand the connection between cigarette smoke and diseases. Trying to understand how that might increase the risk of smoking.

For example, as you read, on the first

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printed page -- page 18 -- as we know CTR supports only fundamental research of little relevance to present day problems, meaning the change of the cigarettes, because that's spoken of earlier.

So essentially what this -- what this document outlines is the dividing line between what CTR and TIRC was responsible for, which was basic research in the disease, and that was funded by the industry. And on the other side of the dividing line is what the cigarette companies were doing trying to change the cigarettes, modify the cigarettes to reduce risks. Because after all as we said yesterday, the cigarette companies are the ones that have the most knowledge to do that.

Q. Well, let's take a look at the Frank Statement, exhibit number 1, the one that we just talked about a second ago.

Do you remember this from yesterday?

A. Yes.

Q. It indicates that Reynolds, among others, was accepting an interest in people's health as a basic responsibility, paramount to every other consideration in our business.

And wasn't it for that reason that Reynolds pledged aid and assistance to research all

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phases of tobacco use and health. Is that true?

A. My reading of the documents from those times and from talking to people that were around in those times, is that, yes, Reynolds did take the smoking and health issue very seriously. And we've already talked about a lot of the things that Reynolds has done, but not all of it. So we did take it very seriously.

So the smoking and health issue as suggested in this document was a very important to R.J. Reynolds. And I think it's fair to say that we -- that we did provide aid and assistance and direct work in all phases of tobacco use and health because we funded the basic research trying to understand and in-house we did the cigarette design work.

Q. And you funded the tobacco research industry for that purpose, right? To look into health as it relates to smoking? True?

A. We funded -- now this is my superficial understanding again because I'm not an expert in this area, but we funded biological research in medical universities to try to understand why cigarette smoking is such a strong risk for lung cancer, emphysema and cardiovascular disease.

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Q. And this was supposed to be for the benefit of the smoker; right?
A. Absolutely. For the benefit of the smoker, for moving science forward, and that was -- that was the -- and that was the goal.
Q. All right. Let me show you Plaintiff's Exhibit -- it's 1116 or 1442. This is a Philip Morris document.
It's kind of small. See if I can get a bigger -- bigger picture there.
It's from Dr. Wakeham, you know who Dr. Wakeham is, don't you?
A. Wakeham was an employee of Philip Morris.
Q. Wasn't he their research and development director?
A. Yes.
Q. And who is Mr. Cullman?
A. I'm not sure who J -- is that J.F. Cullman?
Q. J.F. Cullman.
A. I'm not sure.
Q. One of the Cullman's was the president of the company at one point?
A. I don't know.

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Q. Anyway, the subject is "Best Program for CTR," dated 1970.

Let me read this to you.

"In retrospect of the November 30 meeting of the CTR executive committee, it might be appropriate to comment on the question of what kind of CTR program is best for industry? At the meeting it was apparent this question is troubling many elements of the industry to the extent people are reluctant to discuss the subject only because of the diversity of views. To some extent this unsettled state also exists within Philip Morris. In the hopes of clarifying, at least partially, the matter I offer -- at least partially the matter, I offer the following summary, hastily adding that these statements embody idea from many places.

Stated objective or purpose of CTR.

To aid and assist research into tobacco use and health, and to make available to the public factual information on this subject. This is a very broad statement which has been interpreted more narrowly into "providing financial support for research by independent scientists."

To provide significant data about lung cancer, heart disease, chronic respiratory ailments

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and other diseases. (1968, '69 Report of the Scientific Director, CTR, U.S.A.)

A broader CTR program involving the mechanisms of contracts as well as grants in the areas of research pertinent to health, other than strictly biomedical, is not excluded from the statement of purpose. A narrower interpretation indicated above must stem either from industry policy guidance or from the strong medical orientation of the scientific advisory board. In any case, this statement of purpose does not reveal the objective need of industry in supporting the CTR program.

It has been stated that CTR is a program to find out "the truth about smoking and health". What is truth to one is false to another. CTR in the industry publicly and frequently denied what others find as truth. Let's face it, we are interested in evidence which we believe denies the allegation that cigarette smoking causes disease.

If the CTR program is aimed in this direction, it is in effect trying to prove the negative, that cigarette smoking does not cause disease. Both lawyers and scientists will agree that this task is extremely difficult, if not impossible.

What then are the alternatives?

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Somehow all caveats and platitudes aside, we must assume that CTR exists for the good of the industry. How could this benefit be achieved?

Did I read that correctly, doctor?

A. Actually in the top paragraph you did make a mistake, but it was minor.

Q. Now, Dr. Townsend, would you agree that the TRC was not conceived to provide a vehicle for smoke and health research but rather was conceived as a public relations gesture?

MS. PARKER: Your Honor, objection. Rule of completeness. I would like to ask Mr. Acosta to show the witness the entire document, particularly the last page, he doesn't have a copy.

THE COURT: The witness can see the entire document.

MR. ACOSTA: I'm not even asking about that document.

THE COURT: You can see the entire document.

MR. ACOSTA: This is the entire document. I'll be happy to read this as well, Judge, it might solve the problem.

THE WITNESS: Yeah. It's very

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difficult to read actually.
MR. ACOSTA: All right. Let me put it up on the screen.
MS. PARKER: It starts --
MR. ACOSTA: Conclusion?
MS. PARKER: It actually starts above there.
MR. ACOSTA: That was redacted.
MS. PARKER: That's fine.

BY MR. ACOSTA:

Q. Thank you.

"It would seem appropriate to explore in some depth during the next year or two how CTR is or might be serving the needs of the cigarette industry. The disparity of opinion on this subject within the industry indicates that the answer to the question is not obvious. If we members of the industry cannot convince ourselves of a definite answer to the question how, then we might very well decide it is wasted effort. If so, CTR should be terminated."

In other words, the director of research and development at Philip Morris is saying, "Look, if we can't figure out how CTR is going to help the industry, we might as well shut it down."

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Do you take that meaning from this document?
A. I don't know. I haven't read this. I don't recall ever seeing this before, and certainly it's not a Reynolds document.
My take of this thing, at least superficially, is that Mr. Wakeham was, in fact, looking at -- at the reason for CTR's being, to do basic research, to understand the mechanisms of disease, to try to understand why cigarettes are risky; and those are -- that's my -- that's my paraphrase of it. and then he came back and did explore, you know, the other that is talked about in Paragraph 2. And at the end, in the conclusion, he's essentially saying, "If there isn't a clear reason for CTR's being, if it doesn't really help us in understanding" -- again, I'm paraphrasing -- "in understanding the science, moving science forward, then we may as well not do it."
Q. Well, it would be difficult for C -- TIRC or CTR to do that if it was really just created as a public relations gesture, wouldn't it? Would you agree with me on that?
A. If it were true that CTR was created as a public relations gesture, I think it would not achieve the objective. It would not have achieved

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the good science that it did, in fact, achieve that's in the published scientific literature in peer-reviewed journals the work that was done at major medical universities. It wouldn't have been able to achieve that in the way that it did.

And at least -- as I told you, I'm not an expert in what CTR did, all the details of the contract work, but my superficial understanding of it from looking at some of the data, some of the information, is that -- that they really did make a difference in helping move science forward somewhat. I think it proved to be a catalyst for other research in other universities as well that was not even funded by the industry.

Q. Let me show you what's been previously entered in evidence as Exhibit 1720. I'll get a copy of that for you.

You're aware that -- that Brown & Williamson sponsored the TIRC, as did Reynolds; correct?

A. My understanding is that Brown & Williamson also provided funding for TIRC.

Q. And you know who Addison Yeaman is?

A. I've heard his name. I don't believe I've ever met him.

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Q. He is general counsel and vice president of Brown & Williamson?
A. I think that's right.
Q. And eventually he became president of CTR, didn't he?
A. I don't know. Did he?
Q. Well, let me show you this:
"Strictly private and confidential. Implications of Battelle HIPPO I and II and Griffith filter, July 17th, 1963." This is a Brown & Williamson document.
"The TIRC cannot, in my opinion, provide the vehicle for such research. It was conceived as a public relations gesture; and however undefiled the scientific advisory board and its grants may be, it has functioned as a public relations operation. Moreover, its organization certainly in its present form does not allow the breadth of research -- cancer, emphysema, cardiovascular disorders, et cetera -- essential to the protection of the tobacco industry."
Did I read that correctly, Doctor?
A. Yes, you did.
Q. Now, I want to ask you about the AMA for a second.

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Isn't it true that the AMA research, to some extent, was similar in that it was not asked to look into smoking and cancer back in 1964-65?

A. You know, frankly, I don't know the details of that work.

Q. Well, they did do a study that came out about --

A. Excuse me, please. I think there was work done. It's not directly related to smoking and cancer, but rather trying to understand how cancer forms in the first place. Important to smoking and cancer, yes.

Q. They did eventually do a study, I believe, that resulted some 10, 12, 13, 14, 15 years after 1964-65 that confirmed smoking was a cause of cancer, didn't they?

A. Which studies are you talking about?

Q. Well, I don't have it off the tip of my head. I'm just wondering if you recall it.

A. I recall that a lot of work has been done over the years trying to understand the mechanisms of cancer formation, trying to understand the relationship between smoking and various constituents in smoke and cancer. Certainly the American Chemical Society -- I mean, the American

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Cancer Society has concluded that cigarette smoking causes cancer. Beyond that, your question is very general, and I'm not sure I can respond.

Q. Well, let me -- let me show you this document previously marked into evidence as Plaintiffs' Exhibit 1387. This is a Philip Morris document. It's dated December 9th, 1965. Let me get a close up here.

"To Mr. R. P. Roper, from H. Wakeham, AMA Education and Research Foundation Fund, Tobacco and Health Committee."

And I want to direct you to this -- I have a copy here for you so you can see it.

"While we recognize in spite of the various extensive studies which have been made in the past there may be gaps in our knowledge of the pharmacology of nicotine which the AMA committee might feel it desirable and necessary to close, we are wondering if this area of effort should receive as much attention as they are giving to it to the almost total exclusion of carcinogenesis, which we thought was the major smoking and health problem. We suspect that one reason for this is merely that of simple expediency. It is relatively easy for an investigator carrying out a simple line of

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pharmacological investigation with various chemical compounds to add nicotine to his list and thereby qualify for an AMA grant."

Now, Doctor, isn't it true that the AMA and the TIRC really did a lot of research on the issue of nicotine?

A. There was some research. I'm not sure I would characterize it as "a lot," but there certainly was some.

Q. Were you aware that Philip Morris thought that the AMA research was to the almost total exclusion of carcinogenesis? That means cancer-causing, doesn't it, "carcinogenesis"?

A. "Carcinogenesis" is related to cancer-causing. Now, your question was?

Q. Were you aware that -- that Philip Morris took the position that -- that the group that you belong to was doing research to the almost total exclusion of the cause of cancer?

A. Well, frankly, no. I haven't seen this document, or I don't remember seeing this document and reading it in detail, because it's not a Reynolds document.

You know, I can -- I mean, we can guess what the author, Mr. Wakeham, was talking about,

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because -- and my guess or take on this -- on this paragraph that you read is he was expressing concern over the nix of research that AMA was doing with the funding from the industry. And -- because, in fact, my understanding is that the industry gave the American Medical Association money to fund research in areas that they deemed important.

So, it was a gift to the American Medical Association, and the American Medical Association decided what research to conduct and how to spend that money. And so, my interpretation is Mr. Wakeham was sitting back and saying, "Wait a minute. Maybe the American Medical Association isn't spending the money properly and putting enough into trying to understand carcinogenicity."

Q. And there was a reason for that, and the reason for that is those on the committee, the committee that guided that research, had received -- were sending the research to institutions in which those committee members were associated?

A. I don't know that to be true at all.

Q. Well, let me show you this then on the next page.

It says, "We are also a little disturbed about the observation that approximately

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one half of the grant money has been allocated to institutions with which the committee members are directly associated. While this may it be a wise distribution in terms of available medical research resources, it may also represent a natural human tendency to have more confidence in your own work than in that of others.

"We believe that a constructive evaluation of the AMA program might very properly be made by the Council for Tobacco Research either by its qualified staff members or by the scientific advisory board. Such evaluation communicated to the AMAERF Tobacco and Health Committee, if presented to them in the right way, might be useful to them as an independent assessment and critique of their work."

Did I read that correctly?

A. You read it correctly, but I don't think it's exactly what you were suggesting in your question.

Q. All right. Let me ask you about something else.

You would agree that the cigarette is designed to inhale? True?

A. Well, I would hope that the cigarette is not inhaled -- the cigarette tobacco smoke.

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Q. The cigarette smoke is designed for inhalation?
A. Yes. Cigarette smoke -- most smokers inhale. Surprisingly -- a surprisingly large number, a few percent, smoke -- of smokers don't inhale. Most do.
Q. But the design -- what you design it to do is you design it to be inhaled by the smoker, don't you?
A. We design cigarettes to yield a certain level of tar and nicotine. We design them for certain taste characteristics. The cigarette smoke is inhaled by most smokers.
Q. Whether most smokers inhale is or not is not my question. My question is, do you design it for the purpose of inhalation?
A. I don't understand your question, "Do you design it for the purpose of inhalation?" Cigarette smoke is inhaled by most smokers.
Q. And you know that?
A. Yes.
Q. And you design it so that they can do it, don't you?
A. No. If -- if -- I don't understand your question, because we design cigarettes for

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specific performance targets for specific objectives as we -- you know, we talked about the design objectives the day before yesterday. That's what we design cigarettes to do. Cigarettes, for most smokers, the smoke from cigarettes is inhaled. It's as simple as that.

Q. Let me read to you from your deposition at page 88, September 25, 2000. Would you like to see it first?

A. Yes.

Q. Line 9, 14.

"QUESTION: Is the cigarette designed so you shouldn't inhale?

"ANWER" -- this is your answer: "No. Cigarettes were designed to inhale. I think many smokers, actually a surprising large number, somewhere between five and ten percent, don't inhale."

Is that your answer?

A. If that's what's said there, yes.

Q. Now, you would agree that you can take nicotine out of tobacco, and you can put it back in; true?

A. You can take a portion of the nicotine out through, for example, the reconstitution process

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that we discussed; and along with that comes other water solubles, flavoring or tobacco materials that are generally flavorful; and you can put that back in.

Q. A portion?

A. Yes.

Q. How big a portion? Can you take it all out?

A. A hundred percent?

Q. No. Can you take it all out, whether that's a hundred percent or not?

A. Well, it means 100 percent to me. What does it mean to you?

Q. It does? Okay. Well, then Let me ask you, do you remember this little book that we talked about --

A. Yes.

Q. -- where you were a witness -- not a witness, a participant in the industry?

A. Yes.

Q. You were quoted, and I want to read to you from page 191. Dr. Freeman asked you this question:

"Dr. Townsend, I just want to ask you one question, and it may be a little naive. Several

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times you have mentioned the value of tar in cigarettes because you say it's associated with taste. Even conceding that, although it seems to be a thing that's killing people, but what about nicotine? What is the value of nicotine in cigarettes, and why could it not be dramatically reduced?

Dr. Townsend, this is your answer:

"Nicotine, of course, is part of the smoking sensation. It does provide a sensation to the smoker. I think one of our competitors found that tobacco" -- excuse me, "I think one our competitors found that tobacco that had been treated to remove all the nicotine was not successful in the marketplace. More than just, just as I can't look into the components of tar and say, 'This is a very important tasteful and flavorable compound,' you know I am not equipped as a chemist to say that nicotine is an important compound for this aspect of taste characteristics."

Do you remember telling Dr. Freeman that back in the mid 1990s?

A. I remember that exchange with Dr. Freeman, yes.

Q. And in it you indicated that a company

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that had taken all the nicotine out was not successful in the marketplace. What did you mean by "all" back then?

A. Virtually all. It turns out -- let me -- let me clarify. The competitor that I was referring to was Philip Morris, and Philip Morris did, in fact, develop a product where they tried to remove as much nicotine as possible. Philip Morris owned a coffee company at the same time and used a similar process to de -- or decaffeinating coffee, and they found that if they used this decaffeination-type process which is called supercritical fluid extraction, they could remove almost all of the nicotine. And the nicotine level in the tobacco was reduced to very low levels. They designed cigarettes, put them in the test market. Those cigarettes still -- while they still yielded high tar levels, like above 10 and 15 milligrams of tar per cigarette, the nicotine yield was not zero even though they had removed as much of the nicotine as possible. It was still -- there was still nicotine in the cigarette, and it was comparable to some of the lowest tar products that are in the market like Carlton and Now.

So, what I should have said to

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Dr. Freeman -- and it was not intentional -- was "virtually all." Those cigarettes, by the way, failed in the marketplace because they really weren't consumer-acceptable.

Q. So, is "virtually all" pretty close to a hundred percent?

A. I can't remember the actual percent removals that we calculated from trying to reverse-engineer their cigarettes and trying to understand their cigarettes. It was the majority of the -- of the nicotine that was in tobacco.

But I -- I do believe, as I said the other day -- I don't think it's possible to remove 100 percent of the nicotine from tobacco.

Q. Okay. So, when you said "all," you didn't mean a hundred percent --

A. Right.

Q. -- like you just said a minute ago that, "All means a hundred percent to me"?

A. Right.

Q. And I think you testified that one of the Reynolds cigarettes that you have on the market has tar and nicotine levels so low that you can hardly detect 'em?

A. There's correct. There's a Now

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product, a Now box -- now it's in a hard box -- that has tar and nicotine levels so low, it's very difficult to measure reproducible.

Q. And would you agree, sir, that the level of nicotine determines, at least in part, why people smoke?

A. I think nicotine in part is a reason that people smoke. I don't think it's the only reason people smoke. There are ritual aspects. You know, it's -- it's a habit, and there are certain procedural things that people get accustomed to; and I know this as a smoker. I do believe that nicotine is important for the -- for -- it's an important reason for why people smoke, and evidence of that is the fact that Philip Morris' product failed in the market. You take -- you take essentially all the nicotine or most of the nicotine out, and the consumer acceptance is very low.

Q. It failed on the market because there was another cigarette that provided the nicotine that the smoker needed; true?

A. What cigarette are you referring to?

Q. Do you think those people just stopped smoking all together and said, "Oh, this one is unsuccessful, so I won't smoke it. I won't smoke

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anything"?
A. I'm not sure I follow your question. I don't follow your question.
Q. Well, when you say the cigarette was unsuccessful because it didn't have any nicotine or enough nicotine in it, it was unsuccessful because there was another cigarette with nicotine that those smokers could smoke; true?
A. That's not what I said.
Q. Well, I'm asking --
A. Okay. Let me tell you what I mean by "failing in the marketplace." People tried in the test market those products. There was a very high trial rate. There was a lot of interest among consumers in a cigarette that was denicotinized, a very high interest. And there was very few repeat buyers. And Philip Morris, after many months of these products being on the market, said, you know, "Consumers aren't continuing to buy them," and it failed.
Q. So, what were the consumers doing? They were buying something else, weren't they?
A. They were going back to other cigarettes, yes.
Q. That had more nicotine in 'em; right?

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A. Well, I think that's entirely consistent with what I said earlier, which is nicotine is one important reason why people smoke, but it's not the only reason. Cigarettes that have high tar and low nicotine -- and very low nicotine, those are not acceptable products. And yes, those people that tried it probably went back to other cigarettes that have a higher nicotine level.

Q. So we don't have a market then from your perspective, from Reynolds perspective for a cigarette that has a non-addicting dose of nicotine, true?

A. If the nicotine yield from the cigarette is extremely low, those are not generally consumer acceptable. There's not a market there.

Q. Now, you would have to agree that a pre-smoker, somebody that's never started smoking, they have no idea about nicotine, do they?

A. I don't know what you mean "no idea." What do you mean --

Q. They don't have --

A. What you mean pre-smoker?

Q. They don't know because they haven't smoked yet, right?

A. What's a pre-smoker?

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Q. Somebody that hasn't smoked yet.
A. Somebody that hasn't smoked yet.
Q. You've seen that in your own documents, haven't you, Doctor, that referenced to pre-smokers and how to get that market?
A. I've seen Dr. Teague, and it's one of his think pieces again referring to pre-smokers. I think outside of Dr. Teague I don't recall any -- any other reference to pre-smoker.
Q. Well, in the -- in the realm of smoking, you've either -- you're either a pre-smoker, a smoker, or a former smoker, aren't you?
A. You're either a non-smoker, you're a smoker, or an ex-smoker.
Q. Well, let's talk about the non-smokers that become smokers, let's just call them pre-smokers. Would that be fair?
A. Call them what you want.
Q. That's what I mean, somebody that hasn't smoke. Those people don't know what nicotine does before they start smoking, do they?
A. Does in what sense?
Q. Does to them pharmacologically and physiologically?
A. I don't believe that.

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Q. In that sense?
A. I don't believe that at all. If you're asking do they understand the mechanism, the detail biology of nicotine in the body? Probably they don't understand that. If there -- if you're asking do they understand that nicotine is a compound that has some physiological effect in the body, I would bet that you almost everybody knows that.
Q. Let me ask you this, they haven't experienced it, though, have they?
A. If they're a never smoke or non-smoker?
Q. Right.
A. I wouldn't think so.
Q. And in order for Reynolds to remain in business, new people have to start smoking everyday, don't they?
A. No, I wouldn't necessarily agree with that. We -- our goal is to -- is to take customers from our competition. My goal is to build the best products to beat Philip Morris. And to beat Brown & Williamson. And to take their customers.
My goal is not to get people to start smoking. Because -- because people who have already made the choice to smoke, we go after their business. But our goal at Reynolds, my goal as a cigarette

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designer is not to in any way encourage or entice somebody to engage in a risky behavior like cigarette smoking. When they are a non-smoker.

Q. You mean, the ads no bull, no additives is not meant to entice people to start smoking?

MS. PARKER: Objection, Your Honor.

THE WITNESS: Absolutely not.

MS. PARKER: Pre-emption.

THE COURT: Well, give it a timeframe.

Sustained. Give it a timeframe, Mr. Acosta.

MR. ACOSTA: I'll withdraw the question.

BY MR. ACOSTA:

Q. Back in 1959 or 1960, "take a puff, it's springtime," wasn't intended to encourage people to smoke?

A. I can't see how that encourages people to smoke. I can see how it might encourage people to switch to that product. To me, it's a real stretch to say "take a puff, it's springtime" would encourage somebody to engage in a behavior that everybody knows is risky, come on.

Q. So then your philosophy is we build a cigarette and just hope they will come?

A. We don't hope they come. We go after

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our competitors' consumers. We understand our competitors consumers, we try to find out why they like the products that they're smoking that are not ours and we try to go after those people who have chosen to smoke.

Q. And those first smoking experiences aren't usually very good, are they?

A. What do you mean?

Q. First time generally a person puts a cigarette to his lips and inhales, causes them to cough and gag, difficult to inhale, true?

A. All I can go on is my personal experience. I would say, there's some of that.

Q. What's Reynolds' experience with that? I'm asking what is Reynolds -- I'm not interested in your personal experience, Doctor, I'm interested in what Reynolds' experience is?

A. Reynolds, to my knowledge, I've never seen any experience with people who are just beginning to smoke. Non-smokers who are trying cigarettes. Our job, and what Reynolds is interested in is stealing our competitors' customers.

Q. Well, doesn't --

A. I don't -- I have never seen a case where we go out and try to evaluate what happens when

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a person, a non-smoker, smokes their first cigarette. Come on.

Q. You're aware, of the concept of tolerance, drug tolerance, aren't you?

A. Yes, sir, in a general sense.

Q. All right. And -- let me -- I'm going to ask -- I have to ask you a few questions here from this book, okay? I'm just going to ask you a few questions and see if you agree with this. There was a section in here on --

MS. PARKER: If I could just --

BY MR. ACOSTA:

Q. -- on page 113.

Pharmacology and marketers nicotine. Nicotine pharmacology and addictive effects. That was the topic of the NCI meeting that you were there as an industry representative for, correct?

A. That was one of the topics of that symposium.

Q. And in fact, Dr. deBethizy who is also a vice president was there at the time, wasn't he?

A. Yes.

Q. And Dr. deBethizy admitted that some smokers cannot stop smoking, do you recall him saying that?

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A. I don't recall that, but I'm not surprised.
Q. And at the time he was a vice president and an industry representative, right?
A. He was not just an industry representative. He was a R.J. Reynolds scientist who represented the industry and he was -- his expertise, Dr. deBethizy is an expert in the area of nicotine pharmacology. He's -- he spent a majority of his scientific career trying to understand what nicotine does do in the body. Trying to understand the pharmacology. And the kinetics of nicotine metabolism.
Q. Under this chapter of addictive effects is says, "Cigarette smoking behavior is influenced by nicotine dose and smokers tend to maintain nicotine intake within upper and lower boundaries. And breath nicotine produces dose related tolerance, physical dependence and disincriminate -- discriminative effects that people can people feel which modify mood and physiology. And smokers change their behavior in response to these effects."
Reynolds agree with that?
MS. PARKER: Your Honor, could I ask if the witness could be provided a copy of this

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document?
MR. ACOSTA: I don't have another copy of this book. I can put it on the screen and show it that way.
MS. PARKER: I have a copy.
THE COURT: Ms. Parker, bring copy up to the witness.
MR. ACOSTA: Is it marked? Highlighted or anything?
THE WITNESS: Okay. Where are you?
BY MR. ACOSTA:
Q. Does Reynolds agree with what I read?
A. Where are you on this?
Q. Page 113, about two-thirds of the way down on the first paragraph under introduction.
A. 113, two-thirds of the way down, beginning with -- beginning where?
Q. "Cigarette smoking behavior is influenced by nicotine dose."
A. I think there are a couple of things in this statement that I would agree with. I think most of the statement I do not agree with.
Q. When you say I, you mean Reynolds?
A. I'm talking about me as a scientist.
Q. Let me ask you about Reynolds. Does

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Reynolds agree with it?

A. Look, we don't have a policy on every statement that Jack Henningfield an anti-tobacco advocate would say. We don't have policies on -- on -- on all of the issues that are in this. If you're asking me as a scientist, you know, I'll tell you that very clearly and we can go through this point by point and I'll delineate which pieces of this I probably agree with and which I don't.

Q. Let me ask you this: Do you agree with the Surgeon General in 1989, when he said "smoking is an addiction"?

A. It depends on what -- how you define addiction. If -- let me finish, please. If you define addiction as something that's very pleasurable, it's hard to give up, it may be very difficult particularly even for some it may be almost impossible to give up because it's -- it's such a strong habit.

If it's pleasurable and difficult to give up and that defines addiction, then absolutely, cigarette smoking is addictive. If what you mean is the classical definition of addiction, like cocaine, and heroin, and alcohol abuse, then the answer is absolutely not. Because there are more people today

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who have quit smoking than people who currently smoke.

Q. Do you know how many of those people have died from smoking? That quit, a lot of them, huh?

A. Cigarette smoking is a strong risk. I don't know the answer to your question.

Q. Included in that group were some that just smoked for a short time, true?

A. Cigarette smoking is clearly a risk for a number of diseases. Those diseases are chronic diseases, that require many, many years to develop. So your question, I don't generally agree with.

Q. You would agree, that after smoking people developed the diseases many years after they have quit, too, don't they?

A. I agree that -- that the types of chronic diseases that are associated with cigarette smoking require nearly a lifetime to develop.

Q. And you would agree that under the Surgeon General of the United States' definition, that smoking is an addiction, wouldn't you?

A. If his definition is that it's pleasurable and very difficult to give up, then I would agree with that.

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Q. That's knows his definition?
A. It's not his definition.
Q. It isn't, is it?
A. I don't believe so.
Q. In fact, you have one of these in your library, don't you, the Federal Register involving the FDA investigation regarding nicotine?
MS. PARKER: Your Honor, objection, may we approach?
THE COURT: You may.
We'll take a 15 minute break, ladies and gentlemen.
THE WITNESS: May I step down?

THE COURT: You may.
(Thereupon, the jury existed the courtroom and the following bench conference was had.)
MS. PARKER: The regulations have been held invalid in FDA vs. Reams, and that is a Supreme Court case that we have before trial. It's right here. The regulations are revoked. There's no way they can be authoritative.
MR. ACOSTA: It may work -- take his addiction, it doesn't mean the FDA didn't do a

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very completely --
Wait, can I finish. FDA didn't do a very thorough investigation. Something along those lines, Your Honor -- are you okay?
MS. PARKER: I am.
MR. ACOSTA: Your Honor has seen, you know, cases reverse but cited as authority from other grounds and that's basically what this is, the FDA did a very thorough and comprehensive determination as to nicotine. The definition of addiction and so forth. I'm not going to ask him about whether the FDA regulated or trying to regulate, I'm not going to get into regulation at all.
THE COURT: Are you trying --
MR. ACOSTA: Simply what the FDA findings are. I've asked the Court --
MS. PARKER: Your Honor --
MR. ACOSTA: -- to take judicial notice of the FDA findings specifically.
THE COURT: What specific findings are you asking about?
MR. ACOSTA: Definitions of addiction. The if -- the if -- the findings regarding to nicotine choice. The findings with respect to

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the Surgeon General's 1964 definition versus the present day definition, all this stuff is relevant to his testimony and it's something that they have in their library, it's something that Reynolds participated in. They participated in this, they provided all kind of information to the FDA. There's quoted at great length within this document.

THE COURT: You can -- you can use that -- if you want to ask a question where they quote Reynolds, you can ask that, did Reynolds say whatever.

MS. PARKER: I agree with that. But, Your Honor, I don't believe there's any such thing in there. By the way, if I could just --

THE COURT: Hang on.

MS. PARKER: I'm sorry.

THE COURT: Secondly. Here's the -- the problem is, whether the -- if you're going to ask do you agree that this definition of addiction is "X," if he says no, where are you going with that? Because the fact that the FDA has a definition is not -- I mean, that's just -- that's just an out of court statement

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about definition by a government entity.
MR. ACOSTA: That's sort of the point is that they were involved in that. The FDA definition is not -- it's a lot bigger than just the FDA definition accepted by every oral health organization.
THE COURT: The question that, do you agree that this is a bottom of the hill definition of addiction? You can ask that.
MR. ACOSTA: That's -- that's all.
THE COURT: And he answers, but the problem is if he doesn't answer, he may not agree with it. I don't know what you're going -- where you're going to go after that.
MR. ACOSTA: I'm not going beyond that. I think their concern that I'm going to get into, you know, talking about how the FDA, you know, what to regulate them and they fought it, I'm not going into that. I'm sticking strictly to the -- to the straight and narrow nicotine.
MS. PARKER: He can ask him --
THE COURT: Go ahead.
MS. PARKER: -- he can ask about the definition and say do you agree with this

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definition, whatever, whatever he wants to read. But my objection is he can not say that that is the FDA definition, that's the FDA regulation because it's not because those are totally invalid.

I just -- on -- on a related, but separate point, and this is already come up twice today and I didn't say anything, but they're not sworn testimony, the rule is it's different than he has to use those with the witness a different way than if it's a deposition. Mr. Acosta has not been doing that, so I'm going to start objecting on that. I just wanted to give you all notice.

THE COURT: Well, if it's not sworn to --

MS. PARKER: He has to show it to the witness first and ask the witness to explain.

MR. ACOSTA: I'll be happy. I'm just trying in the interest of time to not do it if it doesn't look like he really needs to see it, that's all. If he wants to see it, I'll be happy to show it to him.

THE COURT: I don't know how many documents you have or how much -- I'm not sure

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how many more documents you want to have. But certainly if it's handed to -- if it's not sworn, if you have a copy, hand it to the witness. If it is sworn, you've been handing him sworn testimony too.

MS. PARKER: That's not my issue.

MR. ACOSTA: I have it sworn from his prior testimony. I have him under oath talking about these documents.

THE COURT: It hasn't really been -- I haven't really noticed --

MS. PARKER: They talked about the document before it was -- before it was revoked, that's a different situation.

MR. ACOSTA: But she's talking about a different issue.

THE COURT: Listen to me. I'm not going to let you go into this FDA stuff. If it's revoked. You're very limited on what you can do. You can certainly ask questions about addiction, you can certainly ask, say, do you agree or disagree with this. You certainly, but the problem is, you can't say this is the FDA's definition.

MR. ACOSTA: Well, wait a minute.

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THE COURT: You can't say that because --
MR. ACOSTA: Their definition wasn't revoked.
THE COURT: It's got to be somewhere else. You got to have it somewhere.
MR. ACOSTA: I do.
THE COURT: But you can't say it out of this. Do you understand?
MR. ACOSTA: You're -- they're confusing the issue, Judge. The fact that the Supreme Court determined that the FDA didn't have jurisdiction --
THE COURT: I understand that. I understand that.
MR. ACOSTA: -- their findings and their research.
THE COURT: But listen, listen I understand all that, but the point is, if some things -- if a regulation was removed by order of the court you just simply can't -- you can ask anything you want, but you can't say this is their definition out of an invalid regulation any more than you can say the Second DCA is the law on something if the

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Supreme Court has overturned it.
MR. ACOSTA: That I don't intend to do. But the Supreme Court didn't overturn the definition.
THE COURT: It removed the --
MR. ACOSTA: They can't regulate it, that's all.
THE COURT: I understand. But you have to have another source for the --
MR. ACOSTA: Oh, I do.
THE COURT: -- if you have another source, if you have another regulation issued by the FDA where they got that definition, you can use it. All I'm saying is if it's out of something that was invalidated, you can ask the question he agrees or disagree, but you can't use this as a source.
MR. ACOSTA: Well --
THE COURT: To say the FDA has this definition.
MS. PARKER: Your Honor, if I could ask, if we could have some idea how much -- how much longer the witness is going to be up because --
THE COURT: A while.

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MS. PARKER: -- I have another witness.
THE COURT: At the rate we're going I assume it's a while.
MR. ACOSTA: Probably going to be on at least lunch.
THE COURT: How long are you going to go? Here's the thing, we're here till one today, right?
MR. ACOSTA: Oh, that's right.
MS. PARKER: I need some time for redirect, obviously.
MR. ACOSTA: I've got a fair amount to go. So it's going to be a couple of hours. I can't promise that -- I'll try to finish around noon.
THE COURT: It -- you can take as much time as you want. You're entitled to that but --
MS. PARKER: Our witness, send him back to the hotel.
THE COURT: Send him back to the hotel. I don't think -- I don't --
MS. PARKER: I just don't want to get through by 11 and I don't have somebody here.
THE COURT: The rate it's going this

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morning, I don't think that's going to be the case, do you?

MR. ACOSTA: I think we're going to go for a while.

THE COURT: I think you'll see --

MR. ACOSTA: Because she's going to have redirect.

THE COURT: I think Dr. Townsend might be staying at the hotel for the night.

MR. ACOSTA: So, I don't know who your witness is going to be --

MS. PARKER: I've already told you.

THE COURT: We'll find out tomorrow -- right now -- you can find out by finishing this cross.

All right. We can get -- I can make sure you find out by finishing your cross if you're not going to finish the cross, you won't find out until tomorrow.

MS. PARKER: Thank you, Your Honor.

THE COURT: All right. We'll be in recess.

(Thereupon, a recess was had at 10:30 a.m. until 10:46 a.m.)

THE BAILIFF: All rise.

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Court is now back in session.
THE COURT: You may be seated.
(Thereupon, the jury returned at 10:47 a.m.)
THE COURT: Mr. Acosta, you may continue.
MR. ACOSTA: Thank you, Your Honor. May it please the Court.
Q. Dr. Townsend, before we broke, you're familiar with the federal register regarding the FDA back in 1996; correct?
A. Somewhat, yes.
Q. You got a copy of this in your library, don't you?
A. Yes.
Q. Reynolds participated in the issue of nicotine determination and addiction and so forth with the FDA back in the 19 -- mid 1990s?
A. We provided comments to what's in the federal register.
Q. And is it true that Reynolds disagrees with the Federal Food and Drug Administration's definition of addiction?
MS. PARKER: Your Honor, objection.
MR. ACOSTA: I just asked if he agrees

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or disagrees with their definition.
THE COURT: I'll allow that question.
THE WITNESS: I think I made it clear what Reynolds and I believe about addiction. If addiction is defined as something that's pleasurable and hard to quit, then cigarette smoking is addictive. If it's defined as addictive in the sense of like cocaine, heroin and even alcohol abuse, the answer is absolutely not. And we made that position well-known in our comments.
Q. So, when you say if, are you suggesting that that's what the FDA found?
A. What the FDA found?
Q. Yeah.
A. What do you mean found?
Q. That nicotine was like cocaine and the other things you mentioned?
A. I think many people, including some members of the FDA have equated cigarette smoking to cocaine and heroin and alcohol abuse. And I think that's ridiculous.
Q. Okay. And you have, I believe, testified that you have the Surgeon General's report in your library?

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A. Yes.
Q. Reynolds has somebody that reads them when they come out because they're generally about smoking and health, don't they?
A. Yes.
Q. And you are familiar with the report of the Surgeon General in 1988, correct?
A. Yes.
Q. And again -- let me tell you the title of this one is "Nicotine Addiction".
Now, when this came out, it indicated that nicotine was similar to drugs such as heroin and cocaine in terms of the way it affects the body, do you remember that?
A. I remember that. And I don't agree with that.
Q. And Reynolds doesn't agree with that?
A. Yes.
Q. You agree that nicotine acts like an opiate within the body, doesn't it?
A. No, I don't agree with that.
Q. You don't agree with that either.
Do you remember a Reynolds study regarding something called enkephalin?
A. Enkephalin.

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Q. Enkephalin, do you remember that?
A. I don't know that Reynolds has ever studied that area. I think there's been some -- there's been at least one or two documents that speak to it, it's a possible area of research, but I don't know that Reynolds has ever researched enkephalins.
Q. I'll show you those in a few minutes. If the Surgeon General states that "this report shows conclusively that cigarettes and other forms of tobacco are addicting in the same sense as are other drugs such as heroin and cocaine, you disagree with that?
A. Absolutely, it's not common sense to me.
Q. And do you agree or disagree that nicotine is a reinforcer and tolerance develops diminished effects require increased intake. Do you agree with that?
A. No, I really don't. Because what we see in smokers and certainly my personal experience is, I don't continue to increase the number of cigarettes I smoke per day. I don't continue to increase my exposure to tar and nicotine over time. I -- at some point level off and I smoke a certain amount. And, yes it varies a little bit because when

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I'm at trial I probably smoke a little bit more and when I'm at work I probably smoke a little bit less. But basically it levels out. I don't have a continuing need to increase the number of cigarettes I smoke so I do disagree with that.

Q. You would agree that nicotine affects different people different ways?

A. In what sense?

Q. Are you the measure of how nicotine affects everybody?

A. What do you mean; it affects people in didn't ways?

Q. I'm asking you, doctor, don't you agree that the effect and force of nicotine on the body may be one thing to you, and something else to another person?

A. Well, I certainly agree that people are quite variable in a number of aspects. Both biologically as well as behaviorally. But, you know, it's hard for me to say that people -- I guess I basically don't understand your question.

Q. Let me put it this way, you would agree that some people might find it easy to quit while others find it extremely difficult to quit?

A. Oh, I completely agree with that. And

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I agree with that from personal experience from friends.

Q. When you first start smoking you don't start out at a pack a day, do you?

A. I would say -- my common sense says probably not.

Q. Right. You start out with a few cigarettes and the next thing you know you're smoking a pack a day, sometime later?

A. I don't know if that's true. Many people in fact smoke only a few cigarettes a day period.

Q. And isn't that because -- well, many do, but most don't, do they? Most people smoke a half a pack or more a day?

A. I would say on the average people smoke a pack or slightly less.

Q. And that may have something to do with their age as well, true?

A. I don't know that at all, no.

Q. Well, in any event, when they first start to smoke, it's a fairly noxious experience, which is overcome and then the smoker eventually gets up to a pack a day and that's called tolerance, isn't it?

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A. No, I don't agree. I think that -- At least my understanding of tolerance, and again I'm not a biologist or even a bio-behavioralist. My understanding of tolerance is you -- for example, with alcohol -- with alcohol abuse, you drink alcohol and then after some period of time you really want more alcohol, and then more and then more, and then it becomes certainly destructive. And again that's what I was saying in answer to one of your previous questions, I don't see that with cigarettes. I don't see people continually wanting to increase the number of cigarettes that they want to smoke. So my answer is, I don't see tolerance as an issue with cigarettes.

Q. Well, a pack has 20 cigarettes in it, doesn't it?

A. Yes.

Q. To smoke a pack a day, you got to smoke one -- if you sleep eight hours, you have to smoke one more than once every hour to smoke a pack?

A. That's correct.

Q. If you smoke two packs a day you're smoking one about every 20, 30 minutes?

A. If you do the math.

Q. It would take seven or eight minutes to

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smoke a cigarette, right?
A. Generally, yes.
Q. So if you smoke a pack a day, you're taking seven or eight minutes out of every hour to smoke a cigarette on average?
A. Generally that would be about right.
Q. You would agree that the first cigarette or two a day is the best cigarette?
A. As a smoker to me there are a couple best cigarettes. One is the first one in the morning. Because I'm sitting, relaxing, thinking about the day. And yes, the taste of that cigarette is very good. I enjoy that cigarette. After dinner is another enjoyable cigarette when I'm relaxing, talking with my wife, whatever I'm doing, that's a very enjoyable cigarette.
Q. You don't think it has anything to do with the fact that you didn't have a cigarette all night long and your nicotine level is low, and you needed to get the nicotine into your blood?
A. That wouldn't explain why the one after dinner is so enjoyable, would it.
Q. I'm asking about the first one in the morning?
A. Your hypothesis doesn't fit the fact

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that the one after dinner is also equally or in many cases more enjoyable.

Q. That's the way you perceive it?

A. Absolutely.

Q. Is that the way Reynolds perceives it?

A. I'm a smoker. That's the way I perceive it.

Q. Is that the way Reynolds perceives it?

A. I don't think Reynolds has a position on which is the most important cigarette of the day or what happens with the first cigarette of the day.

Q. You would agree that smokers smoking behavior is to maintain a dose level of nicotine?

A. I do not agree with that.

Q. You disagree with the Surgeon General on this point?

A. Absolutely. We've done considerable amount of experiments at Reynolds and I think there's -- there's actually quite a lot of evidence that -- that maintaining some constant level of nicotine is -- is -- is not necessarily the case.

Q. Let me go back to this issue of tolerance for a second. Would you agree that tolerance for nicotine was established as early as 1905 and that initial smoking produces dizziness,

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nausea, vomiting, headaches and disorients in certain people. And that these affects disappear with continued smoking and that's tolerance?

A. I wouldn't call that tolerance based on my non-expert view of -- of addiction. And addiction -- the classic definition of addiction did include tolerance as well as intoxication. And in 1988, the Surgeon General sort of walked away from addiction including intoxication and tolerance and said, essentially; hey this is hard to quit, I'm going to call it addiction. That's my superficial interpretation of if.

Q. Well, you would agree that the Surgeon General determined that what they learned in the last few years, even met the definition that the Surgeon General used back in even in the 1960s, wouldn't you?

A. No, I don't know that I agree with that at all.

Q. Hasn't that been stated by the Surgeon General?

A. I think -- I don't know. I think that the definition has changed. The Surgeon General certainly changed the definition for cigarettes in 1988 to exclude the notion of intoxication. You know, and so I think it depends on the definition,

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whether you define cigarettes as addictive or not.
Q. Well, one of the reasons --
A. It makes no commons sense to me to define it in a way that it's equal to heroine, cocaine or alcohol abuse.
Q. Well, in fact that's one of reasons why the definition was changed because under the old definition cocaine and amphetamines were not considered addictive, under the new definition they are, true?
A. No. I don't know that I agree with that at all. Again, I'm not a bio-behavioralist or physiologist. But my superficial understanding of what constitutes addiction is that even -- especially under the old definition, which includes intoxication, certainly heroin, cocaine and alcohol were addicting.
Q. Let me ask you some more questions from this monograph involving the National Cancer Institute and the chapter of addictive effects of nicotine.
Before I do that, you would agree that virtually every world health organization; the American Cancer Society, American Heart Association, American Lung Association, the Surgeon General of the

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United States, the World Health Organization, virtually every major world health group classifies nicotine as addictive?

A. I would say most do. I don't know that all do.

Q. And really the only -- the only group that says it's not addictive are cigarette companies, including Reynolds?

A. I don't agree with that. I think there are a number of scientists who also question the change in definition in an attempt to equate cigarettes to heroin and cocaine.

Q. Well, public health in the United States takes a position that nicotine causes drug dependence, true?

A. Yes. Public -- most public health groups in this country that I'm aware of talk about nicotine dependence and call cigarette smoking addictive. Sure.

Q. And that term dependence is used interchangeably with the word addiction, true?

A. No. That would be my take on it as somebody outside --

Q. Nicotine is a drug, don't you agree?

A. I think nicotine -- again, you're

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getting into something that's a definition. Nicotine is certainly a drug when it's used in gum, patches and the like. Nicotine, I would say, is not defined as a drug when it's in its natural state in tobacco. Much like caffeine is considered a drug when it's used in NoDoz and other things but wouldn't be classified as a drug when its in coffee naturally.

Now, that said I think really it's a matter of definition separate from whether that compound or that material causes a physiological response.

Q. DO you have the Diagnostic Statistical Manual of Mental Disorder, DSM4 in your library?

A. That is in our library. This is an area that I'm really not an expert in.

Q. But as vice president of the company you know that -- and as a designer of your product, that caffeine --

MS. PARKER: Your Honor, objection.

MR. ACOSTA: I didn't even finish my question.

THE COURT: All right.

MR. ACOSTA: Do you know as a designer --

THE COURT: Ask your question.

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BY MR. ACOSTA:
Q. You just mentioned caffein, and I want to ask you about caffeine. You're aware that the American Psychiatric Association determined -- has determined that caffeine does not cause intoxication, and it is not considered to be addictive in the same sense as nicotine, true?
MS. PARKER: Objection, relevance.
THE COURT: I'll overrule. Go ahead and answer.
THE WITNESS: I don't know the answer to that.
BY MR. ACOSTA:
Q. You're aware that the Surgeon General considered caffeine, does not consider it to be addictive in the sense of nicotine or any other drug, it's not included as an addictive drug with them, is it?
A. I really don't know the answer to that. I consider caffeine as not addicting if nicotine is not addicting under the same definition of something pleasurable to give up. If caffeine, if you -- again if you define addiction as something that's hard to give up, something that you enjoy and that's what makes you call it addictive, then to me caffeine is

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addictive. Because every morning, not only do I smoke a cigarette, but I do drink coffee. And I really enjoy. And for me giving up coffee in the morning is very, very difficult. So I would call it addicting. But again not in the same way that heroin and cocaine is.

Q. Anyway, Reynolds would disagree with the psychiatric association, and the Surgeon General regarding the difference between caffeine and nicotine?

A. With regard to the psychiatric association, I said I didn't know the answer to your question. I think the previous question I said I really didn't know. I'm not a psychopharmacologist. I'm just trying to use common sense here.

Q. Well, let's talk a little bit more from this book, and ask you if you agree with the National Institute of Health, National Cancer Institute.

It states: "Several findings bear on the issue of the strength of dependence on cigarettes. Although 70 to 90 percent of smokers are interested in quitting, only one in three succeeds before age 65." Do you agree with that?

MS. PARKER: Your Honor, could I get some kind of cite?

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THE COURT: You may.
MR. ACOSTA: That's page 119, addictive affects.
MS. PARKER: Can we provide the witness with a copy.
MR. ACOSTA: I'll be happy to --
THE WITNESS: Thanks. What page?
BY MR. ACOSTA:
Q. Page 113.
A. Okay. I'm sorry, what was the sentence? Where is it?
Q. Cigarette smoking is drug dependence. "Several findings bear on the issue of the strength of dependence on cigarettes. Although 70 to 90 percent of smokers are interested in quitting, only one in three succeeds before age 65."
Does Reynolds agree with that?
A. Are you under the section cigarette smoking is drug dependence?
Q. Yes. Let me -- may I display?
A. This is the article by Jack Henningfield?
Q. Jack Henningfield and Leslie M. Shue?
A. Yeah.
Q. Okay. I guess wrote Chapter 8 of this.

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A. All right. I see where it says "Although 70 to 90 percent of the smokers --

THE COURT: Okay. Mr. Acosta, go ahead.

THE WITNESS: I see where it says "Although 70 to 90 percent of smokers are interested in quitting, only one in three succeeds before age 65." It references Fiore, 1992.

BY MR. ACOSTA:

Q. Right. Does Reynolds agree with that?

A. I don't know whether those numbers are accurate or not. I can tell you qualitative I think many smokers are interested in quitting. And people are quitting smoking in droves, frankly. There are more ex-smokers today than there are current smokers.

Q. How many current smokers are there?

A. I would say in the neighborhood of 40 million.

Q. 40 million people.

And there's more ex-smokers than current smokers?

A. Yes.

Q. And we don't know how many times those former smokers attempted to quit before they were

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successful, do we? Do we have any figures on that?
A. I don't. I don't know to what degree studies have been done on that.
Q. And who do you include in former smokers, some people that smoke a few cigarettes a day, all the way to the people that smoke several packs?
A. Again, I don't know the details of any good studies in that area, so I don't know.
Q. Do you know how many of those are over 40 that have smoked since they were teens?
A. I don't know.
Q. Isn't there a dose response relationship to nicotine dependence the more you smoke the more dependent you get?
A. No, I don't agree with that at all.
Q. You don't agree with that?
A. No.
Q. Let me -- let me show you this. Let's flip the page to the next page.
It states: "There are two lessons here, first, incentives and motivation are important factors in the treatment of nicotine and other drug dependence; second, incentives and motivation have limitations even the threat of death is not

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sufficient for half of these smokers to stop smoking."

Does Reynolds agree with that?

A. I don't agree with that at all.

Q. Does Reynolds agree with it?

A. I don't think Reynolds would agree with that necessarily.

Q. The next paragraph it says, "This is a tenacious addiction in which, despite so many people wanting and trying to quit, fewer than 1 in 10 has a 1 year success, and this means that only 2 to 3 percent of smokers stop smoking each year."

Does Reynolds agree with that?

A. Again, I haven't seen a study that would lead Reynolds or myself to agree with those particular numbers. I know that for some people it is difficult to quit. I do believe that the two to three percent of smokers that stop smoking each year is probably a low number. Because the industry volume is declining much faster than that.

Q. The next sentence says, "More than half of heroin and cocaine users and alcoholics rate smoking cigarettes as harder ti give up than these ordinary drugs."

Does Reynolds agree with that?

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A. No.
Q. Has Reynolds done its own study?
A. On?
Q. On nicotine dependence?
A. Actually Reynolds has done quite a lot of work on bio-behavioral aspects of smoking and smoking behavior.
Q. On nicotine dependence was my question?
A. It is involved in nicotine dependence if you'll let me answer the question.
Q. I'll be happy to let you answer, I just want to make sure --
THE COURT: Ask the question, give an answer, go ahead.
THE WITNESS: Thank you, Your Honor.
And we have in place and have had for many years a psychopharmacologist whose sole job is to understand how people smoke and why they smoke. And his clear conclusion which has been communicated throughout Reynolds, not just the Research & Development Department, is that people smoke for a variety of reasons.
Nicotine is one very important, but not the only reasonable. And he disagrees that dependency, nicotine dependency is the only

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reason people smoke, that's what keeps people smoking. And from his research it's clear that people can quit. And it's very difficult for some people to quit, but if they have the motivation and make up their mind to do it, they can do it.

BY MR. ACOSTA:

Q. Well, that would disagree with Dr. deBethizy who confirmed in this report that some people can't quit, true?

A. No, I disagree with that. I think Dr. deBethizy, who is a scientist on our staff, doesn't view it in absolute terms that way. Because he and I have had that discussion many times.

Q. Did this -- these psychopharmacologists at Reynolds determine how many of the people smoked are dependent on nicotine?

A. Again, dependence implies addiction in the classical sense. We've made -- made our position very clear. It is based on science, it's based on the extensive work, not only in Reynolds but in other research institutions. And statements like this, you know, quite a lot of this actually, we disagree with, based on science. We can go into the details if you want to pull out individual studies. I'm sure we've

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got some studies that will show you why we've reached the conclusions we have.

Q. Well, then there isn't any terrific reason to keep nicotine in the cigarette, is there?

A. Yes.

Q. What's the terrific reason?

A. The terrific reason is because cigarettes with extremely low level of nicotine are not consumer acceptable. People do not buy them. And it's back to a question I've answered several times in response to your questions, nicotine is important for the consumer acceptance of cigarettes. It's essential. But it's not the only reason that people smoke. And if it were the only reason people smoked, why are not everybody using patches and gum?

Because there are other benefits to smoking that people find. The relaxation of it, the ritual of it, the taste of it and other reasons. Nicotine is essential for the consumer acceptability of the product but it's not the only thing.

Q. Well, you would agree that there's a big different between the patch and gum which -- in which nicotine is ingested into your stomach and then gets into your blood slowly. But when you smoke a cigarette, nicotine goes to your brain in about 11

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seconds or so, doesn't it?
A. I don't know what the rate of absorption would have to do with anything. The actual exposure to nicotine, using patch and gum is comparable to that you get from a cigarette. It's on that's the same order of magnitude.
And so if nicotine were the only reason people smoked, given the inherent risks of smoking, why would anybody keep -- keep doing it? They would move to the patch and gum if what they were interested -- if what they -- if the situation were that they were addicted and absolutely couldn't quit, they would move to patch and gum to get the nicotine, if that's the only reason, but it's not the only reason.
Q. Does Reynolds make a pack of 20 pieces of gum that it sells for a couple of bucks?
A. Of course not. I don't understand the point of the question.
Q. How much does a pack of nicotine gum cost?
A. I don't know.
Q. 25, 30, $40?
A. I have no idea.
Q. Let me ask you this: As with

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dependence on other drugs, cigarette smoking tends to be a progressive, chronic relapsing disorder (U.S. Department of Health and Human Services, 1988). That's the reference to the Surgeon General's report, correct?

A. Yes, it is.

Q. "The most notable distinction between cigarette smoking and other drug dependence is a much higher percentage of people who start smoking escalate and graduate to dependent levels than with other addictive drugs."

Does Reynolds agree with that?

A. I don't think so.

Q. Let's go to the next paragraph.

"People do not start smoking a pack of cigarettes per day. They likely would become ill at that level of nicotine intake."

Does Reynolds agree with that?

A. I think in a general sense, if a person is exposed to a lot of nicotine, it will make them feel nauseated particularly and sweaty.

Q. Right. So if somebody -- a beginner smoker picks up a pack of cigarettes and decides they're going to smoke a pack the very first day tries a cigarette, you would expect him to become ill

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at that level of nicotine intake?
A. I disagree with that. I think if a person who has never smokes before and smokes the first cigarette, one cigarette, in most cases they will become nauseated and sweaty.
Q. And what happens if they smoke a whole pack?
A. Well, can you image a person who has never smoked to smoke a whole pack in one day, can you?
Q. It would make him pretty sick, wouldn't it?
A. Again, the first cigarette that a person smokes and I'm basing this on my experience, my personal experience it made me feel nauseated, no question about it.
Q. That's because nicotine is a drug that your body eventually tolerates, correct?
A. There is a physiological effect of nicotine on the body. And I think the body does become used to nicotine, but not in the tolerance argument that you were making.
Q. You would agree that nicotine -- nicotine is extremely poisonous to the human body if given in a dose -- a drop or two?

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A. It can be, yes.
Q. A drop or two of nicotine is a lethal poison, isn't it?
A. Of pure nicotine, yes.
Q. What do you get in a cigarette, about one three hundredths of a drop?
A. I don't know, I've not been through that calculation. The range of nicotine yields from cigarettes goes from almost nothing to the very low cigarettes, so low it's very difficult to measure, up to about -- I would say about 1.2 to 1.3 milligrams of nicotine per cigarette.
Q. Can you put that into drops for you?
A. The average nicotine yield today is about .9 milligrams per cigarette.
Q. Can you put that into a fraction of a drop for us?
A. I think I've just answered that question. I haven't gone through that kind of calculation. It's possible to do.
Q. Okay. Then it says rather -- "They start out with low levels over months and years, most people progress to higher and higher nicotine intake. They become tolerant; that is, nicotine loses effectiveness with its continued presence in the body

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and it is necessary to increase the dose to maintain its effectiveness after repeated administration. Eventually smokers do more than simply tolerate high nicotine doses they need continued nicotine to feel normal and function satisfactorily."

Do you agree with that?

A. No.

Q. Does Reynolds agree with it?

A. No.

Q. And then it says, "At this point smokers may go to great lengths to continue smoking and sustain their nicotine intake within upper and lower boundaries so that their intake does not fall low enough that they experience withdrawal symptoms or high enough to produce adverse effects."

Do you agree with that?

A. No.

Q. Let's switch over to the next page.

I don't have this highlighted. I underlined it, though.

Let me just read the whole paragraph. "Relapse to nicotine dependence has been studied in greater detail than relapse to heroin, cocaine and alcohol dependent. Data from the Mayo Clinic study show that, with" -- whoops.

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"The Mayo Clinic study showed that, with minimal treatment intervention, one quarter of the people relapsed in two days and about one half in the first week. More recent data on people who quit on their own showed that about two-thirds relapsed within three days.

The withdrawal syndrome can be debilitating in its own right, but in the long run, it's worse health consequence may be that most efforts to quit smoking never survive the withdrawal phase. Thereby dooming one half of the persistent smokers to die prematurely because of their tobacco use."

Does Reynolds agree with that?

A. I don't know. In fact, I'm not familiar with this study of Peto that references, so I don't know.

Q. I want to reference Surgeon General's report of 1988, nicotine addiction.

I want to ask you if Reynolds agrees with this statement at page 248.

"In this chapter the term drug dependence or drug addiction refers to self-administration of the psycho active drug in a manner that demonstrates that the drug controls are

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strongly influences behavior. In other words, the individual is no longer entirely free to use or not use the substance."

Do you agree with that?

MS. PARKER: Your Honor, may the witness see this document Mr. Acosta is reading from?

MR. ACOSTA: Yes, I'll be happy to.

THE WITNESS: Where is the statement?

BY MR. ACOSTA:

Q. Right here.

A. I disagree with that statement. It says, "The individuals no longer entirely free to use or not use the substance. Smokers are free to quit. It may be extremely difficult for some smokers, but smokers can quit and they are quitting in record numbers."

Q. Well, it says entirely free. It doesn't say that they're not free. But it does affect their choice, doesn't it?

A. No, I don't agree. I think people choose to smoke. I think people choose to quit smoking. I acknowledge and understand from personal experience with friends and relatives that it can be extremely difficult for people to quit. And some

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people may struggle with quitting for years before they finally quit.

Q. Do you agree that the FDA came to the same conclusion that cigarette smoking and nicotine dependence take away the free choice of the smoker in terms of his continued smoking?

MS. PARKER: Objection, Your Honor.

MR. ACOSTA: Just ask if he agrees or disagrees.

THE COURT: Sustained. Rephrase.

BY MR. ACOSTA:

Q. And would you -- would you agree that the symptoms of nicotine withdrawal syndrome are very similar to those of clinical depression, according to the Surgeon General?

A. I don't -- I don't know that that's true at all.

Q. Do you agree that the nicotine gum and the nicotine patch as determined by the Surgeon General did not eliminate the urge to smoke?

A. Actually, I didn't know that they said that. I think my personal experience with some friends and relatives is that that is probably not true.

Q. What is Reynolds' position?

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A. Reynolds doesn't have a position that i know of.
Q. You're aware that this DSM4 in your library indicates indeed nicotine does have withdrawal symptoms, true?
A. I don't know. I'm not a psychopharmacologist. I'm not sure what that book says.
Q. You haven't taken into account withdrawal symptoms in designing the cigarette so as to eliminate or reduce them, have you?
A. Absolutely not. That is absolutely ridiculous. We make cigarettes. It can be very difficult for people to quit. Cigarettes do pose a risk and we at Reynolds have dealt with that directly.
Q. Back --
A. We do not design cigarettes as you suggested.
Q. You don't design them to help people quit is what you're telling us?
A. I'm sorry?
Q. You don't design cigarettes to help someone quit?
A. To help someone quit?

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Q. Right.
A. Such as making an extremely low nicotine cigarette in the hopes that people will find it so objectionable that they quit?
Q. No. I'm asking you if design cigarettes with that in mind.
A. No.
Q. And, in fact, back in the '40s and '50s and '60s, Reynolds didn't ever give anybody instructions on how to quit smoking when they bought a pack of cigarettes, did they?
A. No. I find that really a strange question.
Q. Well, you believe that a cigarette company like Reynolds could put a package insert into the package, that it would be feasible to do that, that would tell people how to quit smoking if they wanted to?
MS. PARKER: Objection, Your Honor, pre-empted.
MR. ACOSTA: This is referencing back to the '50s and '60s, Judge.
THE COURT: Give a timeframe.
BY MR. ACOSTA:
Q. True?

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THE COURT: Re-ask the question.
BY MR. ACOSTA:
Q. Back in the 1950s and '60s, Reynolds could have put a package insert into the cigarette pack and said, you know, "This is how you can quit smoking if you want to"?
A. Are you asking is that technically possible?
Q. Yes.
A. Was that technically possible?
Q. Sure.
A. I'm sure it was technically possible.
Q. They didn't do that, did they?
A. Please don't interrupt me anymore.
Q. I didn't mean to interrupt you, doctor.
THE COURT: Ask a question.
Answer the question.
Don't debate each other. Okay?
THE WITNESS: It's technically possible, I would think, in the '50s or '60s, to put an insert on the package or in the package that said whatever was needed to be said. I can tell you in that time period what you're suggesting should go on that insert was, in fact, information coming from public

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health groups in the '60s, certainly the Surgeon General, from medical researchers, and others.

BY MR. ACOSTA:

Q. Well, I just want to know what Reynolds thought. Did Reynolds think to tell people in the '50s and '60s how to quit smoking?

A. I don't know that Reynolds ever considered telling people how to quit smoking. Certainly the public health groups were doing that very well.

Q. Now, when you smoke a cigarette, you've talked about this nicotine-to-tar ratio. No matter how you smoke the cigarette, you get the same ratio of nicotine to tar; true?

A. No matter how you smoke the cigarette you get the same tar-to-nicotine ratio?

Q. Well, if you suck hard on it, you get the same nicotine and tar ratio that you get when you might puff lightly on it?

A. To first approximation, depending on how you puff, you get essentially the same ratio of tar to nicotine. There can be slight changes as a result of specific cigarette designs. For example, the cellulose acetate filter can actually remove tar

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and nicotine to slightly different efficiencies or degrees of efficiency. So, there can be small changes in the tar-to-nicotine ratio; but if you take a large puff or a small puff, to a first approximation you get about the same ratio.

Q. But the smoker can determine for himself how much he gets of the tar and nicotine from a given cigarette; true?

A. The smoker can determine how much. The smoker, by virtue of how they smoke, can change the yield of tar and nicotine from the cigarette. And that's been a well-known -- well-known phenomena for many, many years.

Q. In fact, that's called "smoker's compensation"; true?

A. I think the prevalent term for that is "compensation."

Q. And that's one of the issues that was studied at this meeting you went to back in the mid '90s?

A. Yes, because the main point of that meeting was to evaluate the Federal Trade Commission tar and nicotine measurement, the FTC smoking method, and to see if -- to see if that was the right type of smoking method to employ.

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Q. And what does "compensation" mean?
MS. PARKER: Your Honor, objection, relevance.
THE COURT: I'll overrule, if you can answer.
THE WITNESS: To me, "compensation" in this sense when we're speaking of puffing behavior or cigarette behavior -- smoking behavior, sorry, "compensation" means changing the smoker's behavior, be it the size of the puff, the duration of the puff, or how often the person puffs, or even how many cigarettes per day they smoke. Compensation -- by changing that kind of smoking behavior, you can get more tar and nicotine or less tar and nicotine.
BY MR. ACOSTA:
Q. Or you can get the same dose of nicotine that you need; true?
A. Well, you're assuming a number of things. What I'm saying -- you asked me for a definition of "compensation." That's the definition.
Q. Let's assume --
A. You can change your smoking behavior in all those things I listed to either to get more tar

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and nicotine or less.

Q. Let's assume that the smoker needs a given dose, that there's a requirement for the smoker to get a given dose of nicotine. He can adjust his smoking behavior on any one of the ranges of low-tar, low-nicotine cigarettes to get really what he needs; true?

A. I don't agree with your premise that a smoker has a certain level that they want to get to, that they have a level they need to get to. I think part of your question is -- is right that a person can adjust the way they smoke and get more or less, but I don't agree with the notion that there is a magic level of nicotine that a smoker needs and, therefore, that person adjusts their behavior to get exactly that level. I don't agree with that part of it.

Q. Then you disagree with the conclusions of the group meeting that you were at regarding smoker compensation; true?

A. I think most people believe, as you've been suggesting, in the public health community, that smokers adjust their smoking behavior to get one hundred percent compensation; that is -- and let me give you an example. If I'm smoking a high-tar

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cigarette and I switch to a low-tar cigarette, I immediately change my puffing behavior or my smoking behavior so that I get exactly the same amount of nicotine that I would have gotten had I smoked the higher-tar cigarette. There is quite a lot of science in the public literature -- in the scientific literature, rather, peer-reviewed literature, that clearly leads to the conclusion that that's not true.

It is clear from that information that compensation does occur; that when a person switches, if you take a higher-tar cigarette smoker and switch them to a lower-tar cigarette, they do puff harder on the average. They oftentimes will take more puffs, and they will get more tar and nicotine than you would predict based on the FTC smoking method. But they don't fully compensate to get the same amount of stuff, tar and nicotine, as if they had smoked the higher-tar product.

So, the simple answer is, compensation can and does occur when people switch cigarettes, but it's not a hundred percent compensation, as you're suggesting.

Q. And they do it subconsciously for -- for the most part, don't they?

A. I think compensation as we're talking

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about it is probably not thought about at all. It's just something that happens because a person's used to a certain strength of the cigarette. For example, I know as an ultra-light smoker, when I smoke a higher-tar cigarette in the course of my work at, you know, say, evaluating a new product or a new prototype at work, when I smoke a higher-tar product, it's very strong, and I find myself taking much smaller puffs. And it's not something that I consciously do. So, in that sense I agree with you.

Q. And the thrust of this meaning that you went to was that the FTC method didn't really measure the way humans can smoke a cigarette or do smoke a cigarette; true?

A. That's absolutely true, and the FTC method was never intended to represent what any smoker gets; and that was very clear -- clearly made known by the FTC when they started the method in the first place.

Q. And that's one of the reasons why -- you know how this has evolved, don't you, over time?

A. I think I have an idea.

Q. And you know where they stand today?

A. They who?

Q. The FTC.

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A. Oh, I think the FTC -- it's unclear where they stand.
Q. You think it's unclear?
A. Yes, because they've asked NCI to evaluate this question in the 1994 conference that we had. That book was published. The FTC took it back, and it essentially has done nothing in terms of actually recommending changes to the smoking method or addressing the issues that are in that book.
Q. Are you aware as to whether or not they have done that very recently?
A. The FTC?
Q. Yes.
A. I'm not aware of anything that the FTC has done recently.
Q. You're not -- you didn't know that anything was coming from the FTC regarding this issue of smoker compensation? Did you know anything was about to come out from them?
MS. PARKER: Objection. Your Honor's prior ruling.
THE COURT: I'll allow that question.
THE WITNESS: I'm sorry. Can you restate the question?
BY MR. ACOSTA:

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Q. Did you know anything was coming from the FTC?
A. As I said, the FTC has done nothing as a result of that 1994 conference. I do -- I am aware that the FTC has gone back to the National Cancer Institute and asked them for additional information or guidance, and I haven't seen the actual request; but that's just my superficial understanding, and I am aware --
Q. You're not aware of any recently --
A. Please let me finish.
Q. I'm sorry. I didn't --
THE COURT: Mr. Acosta, gentlemen -- gentlemen, don't debate each other.
Finish the answer.
THE WITNESS: Thank you, Your Honor.
And I am aware that as a result of this request by the FTC that the National Cancer Institute has said that it would publish a monograph outlining the issue that deals with compensation. It deals, once again, with the FTC smoking method. And that report was to be published by the NCI.
BY MR. ACOSTA:
Q. Do you know when it was to be

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published?
A. Yes. Yesterday.
Q. Do you know what it said?
A. I have not read that report.
Q. Well, I didn't ask you if you read the whole thing, but do you know the gist of it?
A. I've seen the press release from the National Cancer Institute.
MS. PARKER: Objection, Your Honor.
THE COURT: I'll overrule at this point.
BY MR. ACOSTA:
Q. And what did the press release say?
A. The press release -- let's see if I can remember. The press release essentially said that -- and these are my words -- all cigarettes are equally bad. High-tar, low-tar cigarettes, there's no difference. And people fully compensate, meaning they compensate one hundred percent.
If I smoke an ultra-low-tar cigarette -- if I smoke a high-tar cigarette and I'm given an ultra-low-tar cigarette, I will puff that to get exactly the same amount of tar and nicotine, which is absolutely wrong, as I've already said. And the practical observation that I as a smoker can

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bring to that is that I know that when I smoke -- when I used to smoke a lights product and I tried an ultra-light tar product, that product tasted too light, too airy. And it wasn't the same as my regular light product that was a higher tar and nicotine yielding cigarette. If I were compensating a hundred percent, they would have tasted the same, because I would get the same amount of not only nicotine, but the same amount of tar, and they would taste very similar. But my experience is -- and I think smokers in the Research & Development Department agree that when you switch, you can taste the difference. If there were a hundred percent compensation, you wouldn't be able to taste substantially the difference. All right. So, that was the second conclusion.

The third conclusion -- let's see if I can remember. Oh, it dealt with the Federal Trade smoking method -- the FTC smoking method and essentially said that some changes needed to be, because the FTC smoking doesn't tell smokers exactly what they get.

Those are the three major points I recall.

Q. Do you recall a finding that there is

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no convincing evidence that the changing cigarette design over the last 50 years have reduced -- there's no -- let me start over. There is no convincing evidence that the changes in cigarette design over the last 50 years have reduced the disease burden produced by cigarettes?

MS. PARKER: Objection, Your Honor.

THE COURT: I'll overrule it.

THE WITNESS: I think I paraphrased that one already. I've said I think the findings of that NCI report were that all cigarettes are equally bad, high-tar cigarettes and low-tar cigarettes; and I think there's -- in my opinion, based on epidemiology and another aspects, I think they're clearly wrong. Lower-tar cigarettes probably do reduce the risk to smokers.

BY MR. ACOSTA:

Q. They don't reduce the risk enough for it to make a difference, do they?

A. I disagree with that; and let me give you an example. You asked me yesterday a question about a Tang and Wald article that said when tar levels were reduced by 50 percent -- and actually, you didn't identify it as Tang and Wald, but I know

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that.

When tar levels are reduced by 50 percent, the lung cancer mortality rate was reduced by 25 percent. And you indicated -- and you brought that up as a question to me, and I acknowledged that yes, those data do exist. There was a study that was performed in the United Kingdom among a large number of smokers. And so, that experiment is only one example. There are other epidemiology studies that show that lower-tar cigarettes do, in fact, reduce the risk of lung cancer to smokers.

There are some other data where it's equivocal, where it's not clear that there's a reduction; but there are data and some data that you even referred to yesterday that shows that there's a reduction in the lung cancer mortality. So, I don't agree with the conclusion of that particular report.

Q. This report is based on new data since this information that we discussed yesterday came out; right? That study you referred to was actually referred to by you over a year ago. And do you know the date of it?

A. Tang and Wald was in 1995.

Q. Okay.

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A. It was published in the British Medical Journal, and Professor Wald actually is Sir Nicholas Wald. He's a very highly regarded scientist in the UK.

Q. You remember back in 1959 Dr. Rodgman said that the smoker had a requirement for nicotine. Do you remember that?

A. I remember Dr. Rodgman and also Dr. Teague suggesting that there may be a requirement or a certain level of nicotine that people prefer. I don't think he suggested that all people had the same -- the same level. I think subsequent work, particularly by Dr. Robinson, one of our psychophysiologists and some research that's done at Reynolds, together with some work in other laboratories outside of Reynolds, suggest that that's probably not true.

Q. Well, Dr. Rodgman back in 1959 in Plaintiffs' Exhibits' Exhibit 1653, if I might display this Your Honor -- I can get a copy for you if you would like to see it, Doctor. It's Plaintiffs' Exhibit 1653, The Optimum Composition of Tobacco and Its Smoke by Dr. Rodgman, November 7th, 1959.

He states, "In any discussion of smoke

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and its relation to health and smoking enjoyment, the question arises, what is the optimum composition of cigarette smoke with respect to these factors? This question may be best answered as follows: Cigarette smoke should contain sufficient nicotine to supply the necessary requirements of the smoker with respect to this compound.

"The optimum composition of cigarette smoke can be narrowed still further. Cigarette smoke should have a flavor comparable with that of Camel and/or Winston blend and should yield nicotine in the smoke in an amount ranging from 1.5 to 2.0 milligrams per cigarette."

Was that the position of Reynolds back in 1959?

MS. PARKER: Your Honor, objection. Under the rules of completeness, I would like to ask that the rest of those sentences be read.

THE COURT: Go ahead, Mr. Acosta.

BY MR. ACOSTA:

Q. Okay.

I'll start at the top. The choice of the most appropriate approach was made after consideration of the following: In anything

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discussion of smoke in its relation to health and smoking enjoyment, the question arises, what is the optimum composition of cigarette smoke with respect to these factors?

This question may be best answered as follows: Cigarette smoke should contain as little as possible, preferably at the zero level of the polycyclic hydrocarbons, should possess satisfactory flavor to please the consumer and should contain sufficient nicotine to supply the necessary requirements of the smoker with respect to this compound.

Since the sales -- the recent sales figures for Camel and Winston cigarettes, both highest in the industry for several years in their respective categories, indicate that the consumer is obviously well-satisfied with the flavor and physiological contribution provided by these cigarettes.

The optimum composition of cigarette smoke can be narrowed still further: Cigarette should be low in polycyclic hydrocarbons, should have a flavor comparable with that of Camel and Winston blend, and should yield nicotine in the smoke in an amount ranging from 1.5 to 2.0 milligrams per

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cigarette.

Is that Reynolds position back then, Doctor?

A. No, it wasn't. And in fact, I think what Dr. Rodgman here is referring to, based on a variety of his other documents, is -- and this is my interpretation, again, based on this and other Rodgman documents, that statement, sufficient nicotine to supply the necessary requirements of the smoker with respect to this compound.

He recognized that a cigarette with extremely low levels of nicotine was not consumer acceptable. I think he was recognizing in that, that there needed to be some level of nicotine to make that product consumer acceptable, not that there was a particular baseline or physiological threshold within the individual that must be satisfied by smoking.

And I witnessed that again because he's -- in the second paragraph that you read, he is actually talking about what that level of nicotine should be 1.5 to 2, and that's based on the current market at that time. Because he knew that those were consumer acceptable products and doing very well. That was the baseline.

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And in fact, I'll remind you that today, the nicotine yield is much, much lower than that, on the average, at about .9, so nearly half -- over half actually, of what he's recommending.

And if that were a biological baseline or a physiological baseline, I'm sorry, then he's missed the target by at least a factor of 2. So, I disagree with that.

Q. What do you think he meant when he said the physiological contribution?

A. I think he recognized that nicotine has a psycho pharmacology, a mild pharmacology to it, and that it's important for the overall sensation of smoking, it's important for the overall enjoyment of smoking. And I think -- you know, I come to that conclusion based not only on the research, but also on a variety of Rodgman documents.

Q. And, of course, pharmacology would mean drug affect, wouldn't it?

A. Sorry?

Q. Pharmacology means drug affect, doesn't it?

A. Well, pharmacology would mean an affect of the body of something that's taken in, in my estimation.

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Q. Now, this term -- this use of the term "addiction", I want to show you Plaintiff's Exhibit 54, which is a Brown & Williamson document, property of the Brown & Williamson library, research conference, 1962.

The author indicates, "Lastly, smoking is a habit of addiction that is pleasurable; many people, therefore, find themselves subconsciously prepared to believe that it must be wrong."

I just want to ask you about the addiction part. Reynolds, again, disagrees that nicotine should be characterized as addictive; true?

A. No, that's a complete mischaracterization of everything that I've said so far. I said whether you call it addiction or not depends on your definition.

If you define it as pleasurable, something that's difficult and may be extremely difficult to give up because it's so pleasurable, if that's your definition of addiction, then absolutely, cigarettes are addictive.

Q. Let's look at Brown & Williamson's next document, 910, called The Fate of Nicotine in the Body by Geissbuhler and Hasselbach, May 1963.

They indicate that there is increasing

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evidence that nicotine is the key factor in controlling through the central nervous system a number of beneficial effects of tobacco smoke, including its action in the presence of stress situations. In addition, the alkaloid -- nicotine is an alkaloid, isn't it?

A. Nicotine is an alkaloid, yes.

Q. Appears to be intimately connected with the phenomena of tobacco habituation, tolerance and/or addiction. Detailed knowledge of these effects of nicotine in the body of a smoker is, therefore, of vital importance to the tobacco industry, not only in connection with their present standard products, but also with regard to future potential uses of tobacco alkaloids.

Now, Reynolds was sent a copy of this document. Did your review of Reynolds' documents indicate that, Doctor?

A. I don't remember going through this document before. It's not a Reynolds document. I don't remember.

Q. Do you remember that the fate of nicotine and the HIPPO documents were sent to Mr. Ramm at the Legal Department of Reynolds by Addison Yeaman back in 1963?

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A. The HIPPO documents?
Q. Yes.
A. And what was in those documents?
Q. This was one of them.
A. But what was in those documents? Details of the --
Q. What I -- what I just read to you.
A. -- HIPPO projects or what?
Q. What I just read to you was one of them. Do you recall that?
A. No, I don't. I don't recall going through this.
Q. Well, let me ask you this: Although tolerance to some drugs may depend on accelerated enzymatic breakdown, prolonged consumption of others, including morphine, appear to induce cellular adaptations.

In any case, the present results offer no conclusive evidence for any particular mechanism involved in tolerance to nicotine, nor do they indicate a lead to the phenomenon of addiction.

We believe that both tolerance and addiction are intimately connected and that it would be most useful to investigate the two phenomena in regard to cellular adaption, especially in target

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organs of the central nervous system.
Did Reynolds do any kind of research like that?
A. Over what time period?
Q. Back in the 1960s?
A. I'm not aware of any research done at Reynolds along these lines.
Q. How about in the '80s?
A. I mean, we've done some research trying to understand the pharmacokinetics of nicotine. I'm not aware of research exactly along the lines of this, no.
Q. Let me ask you about Plaintiff's Exhibit 911, titled A Tentative Hypothesis on Nicotine Addiction.
Now, I want to ask you a little bit about the title of this. What is A Tentative Hypothesis?
A. I don't know. This is not a Reynolds document. I don't remember what this thing says.
Q. You are correct, it's not a Reynolds document.
A. So --
Q. This is another --
A. So, you're asking me a question I don't

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know the answer to. I certainly -- in fact, I don't even know these authors and I couldn't even guess what they meant.

Q. What is a hypothesis?

A. A hypothesis is a construct of what you think is true.

Q. And what they were trying to determine, based on this title, is they were trying to determine what a tentative hypothesis on addiction was, nicotine addiction was; do you understand it that way?

A. Well, that's the title of it.

Q. They were assuming nicotine was addictive and trying to find figure out why; is that -- is that the way you would take this title?

A. Well, I think basically, yes, because that is the scientific process. Scientists, when they go in the lab, actually develop a hypothesis. And the hypothesis is -- you know, is a construct. And then you go into the lab and try to prove the hypothesis.

Q. Okay.

A. So you don't just go in and play in the lab, you go in with a particular -- a particular hypothesis that you try to prove.

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And in this case, the hypothesis may be that nicotine is addictive in whatever sense, with whatever definition. You go do the experiments and see.

Q. And see what?

A. And see if the hypothesis is correct. You missed the point on the scientific method.

Q. Doctor, it states in the beginning of nicotine consumption, relatively small doses can perform the desired action. Chronic intake of nicotine tends to restore the normal physiological functioning of the endocrine system so that ever increasing dose levels of nicotine are necessary to maintain the desired action. Unlike other dopings such a morphine, the demand for increasing dose levels is relatively slow for nicotine.

Now, did Reynolds do a study to determine the change that a smoker has with respect to initial smoking to the time that he gets up to a pack or pack and a half a day to determine how long it takes and why?

MS. PARKER: Objection, Your Honor, not a Reynolds document.

THE COURT: Well, identify the source of the document --

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MR. ACOSTA: I did, I said British-American --
THE COURT: -- and then you may ask the question.
MR. ACOSTA: It's a British-American.
BY MR. ACOSTA:
Q. What I'm trying to find out is, did Reynolds do a study to find out how long it took for a smoker to get up to a pack a day or a pack and a half a day or two packs a day and why?
A. No.
Q. Now, it says in a chronic smoker, the normal equilibrium in the corticotrophic releasing system can be maintained only by continuous nicotine intake.
Did Reynolds do any research on corticotrophic releasing systems, to your knowledge?
A. I don't know what that is. I have no idea.
Q. Do you know what the hypothalamus is?
A. Well, in a general sense.
Q. It's part of the brain, isn't it?
A. Yes.
Q. It says if nicotine intake, however, is prohibited to chronic smokers, the corticotrophic

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releasing ability of the hypothalamus is greatly reduced so that these individuals are left with an unbalanced endocrine system.

Did Reynolds do any research to determine whether nicotine left a person in a state -- excuse me, I need to restate that.

Did Reynolds do any research to determine whether or not deprivation of nicotine after you've been a smoker for a while resulted in an unbalanced state of the endocrine system of the body?

A. I've never seen any.

Q. It states, a body left in this unbalanced status craves for renewed drug intake in order to restore the physiological equilibrium. This unconscious desire explains the addiction of the individual to nicotine.

Are you aware or is Reynolds aware that there is an unconscious desire on the part of the smoker to light up a cigarette?

MS. PARKER: Objection, improper cross.

THE COURT: I'll overrule.

THE WITNESS: I'm not sure that that's true at all. I'm not sure that Reynolds would agree that that's true at all. I don't know.

BY MR. ACOSTA:

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Q. Now, we -- I showed you Exhibit 720 earlier regarding the TIRC?

THE COURT: Before you do that, this is a new exhibit now?

MR. ACOSTA: Yes, Your Honor, it's a new exhibit, it's --

THE COURT: Okay.

We'll take a 15-minute break and then we'll come back and conclude for the day.

(Thereupon, the jury was excused at 12:02 p.m. and the following discussion took place.)

THE COURT: You're still testifying, you're free to get down.

Ms. Parker, Mr. Acosta.

Mr. Acosta?

MR. ACOSTA: Yes, sir.

THE COURT: How much longer?

MR. ACOSTA: It's going to go to one.

THE COURT: But as in tomorrow?

MR. ACOSTA: Into tomorrow --

THE COURT: Make sure he's got hotel reservations or whatever else you need --

MR. ACOSTA: Going slower than I'd like.

THE COURT: I'm just asking. I want to

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make sure I conclude this witness. You're telling me you'll be over 45 -- more than 45 more minutes.

MR. ACOSTA: (Nods head)

THE COURT: All right.

Ms. Parker was right, four days of cross, right?

MS. PARKER: Yeah.

I have a witness that I have brought down here because Mr. Acosta told Your Honor he had a half a day.

THE COURT: I recall. When is he available? He's here to --

MS. PARKER: He's here, he's been here. Mr. Acosta said he had a half a day on cross. So, I will have to talk I guess during the lunch break. Because I know Your Honor wants to find out our schedule -- I don't know. I have no idea. I have to get in touch with all those witnesses about our schedules, but I'll try.

THE COURT: Well, at this point, we're going to -- rest assuredly be not working Monday and Tuesday. The only reason I was debating Tuesday was because to see if we

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could conclude, you know -- if we had that fourth day, could we get everything done, at least testimony, but -- but I don't see that that's feasible at the moment. Unless everything moves a lot quicker. But I just -- which is neither here nor there.

But -- so we'll -- so when you're calling people, unless you're going to this afternoon tell me if, you know, we've got three -- I've only got three more days -- Friday --

Unless you're going to say, I've got three more days, which basically after Thursday Friday -- you know, if you said Friday, Tuesday Wednesday, I'd be able to conclude, that would be one thing. But I don't think you're going to say that, correct, Ms. Parker?

MS. PARKER: I need to get in touch with my witnesses.

THE COURT: You think -- you think you're going to be longer, right?

MS. PARKER: I can't speak to how this is turning out for Mr. Acosta.

THE COURT: I understand. I'm not

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asking -- you think it's going to be -- based on what --

MS. PARKER: Based on --

THE COURT: Based on this, you think --

MS. PARKER: Based on this, we'll be here until Christmas.

THE COURT: Well, except we're not going to work we're going to take off.

All right. See you all after recess

(Thereupon, a recess was taken at 12:05 p.m. until 12:17 p.m.))

THE BAILIFF: All rise.

(Thereupon, the jury entered the courtroom.)

THE COURT: You may be seated.

MS. PARKER: Your Honor, may I go back over?

THE COURT: You may.

Mr. Acosta, you may continue.

MR. ACOSTA: Thank you, Your Honor.

Q. Let's see, Dr. Townsend, just before we broke I was going to show you the next document that's in evidence. It's a Brown & Williamson document, I showed to you a little while ago.

Previously I read from the part up

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above where it talks about the TIRC.
Now I want to focus down on the center portion of the document from July 17th, 1963.
"Moreover, nicotine is addictive. We are then in the business of selling nicotine, an addictive drug."
Is that something that Reynolds disagreed with back in 1963, to your knowledge?
Let me ask you -- excuse me, let me ask it a different way, and I'll retract that question.
Does Reynolds agree with that today?
A. I think I've answered this a number of times. It depends on the definition. If the definition is it's a pleasurable behavior, something that's extremely hard to quit, the answer is yes; if that's the definition, yes, we agree with that.
Q. What authority, Surgeon General's report, medical journals, DSM4, what report defines it that way?
A. I'm not -- I'm not a behavior scientist. I'm not a psychologist or a psychophysiologist, but it's clear using common sense, that to me, and also to my colleagues, the scientists at Reynolds who are experts in this area, that cigarette smoking is not addictive under the

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classical definition. It does produce intoxication. It does not require continued increase in the level of exposure or the dose. And, so, it doesn't fit the classical definition. It does fit the definition of addiction, meaning it's very difficult to give up and it's pleasurable.

Q. If you smoke a whole bunch of cigarettes, the first time you ever smoke, doesn't it cause intoxication?

A. It causes nausea. I'm not sure it causes intoxication.

Q. All right. Let me show you the next document.

This is Plaintiffs' Exhibit 932. It's another British-American Tobacco Company document. We don't have the exact date. It's dated October 24th, we think it's back in the 1960s.

MS. PARKER: Objection, Your Honor.

MR. ACOSTA: That's how it was introduced previously, Judge.

THE COURT: Do we not know the date of that document?

MR. ACOSTA: We believe it was about a 1962 document, that's how we identified it.

THE COURT: Ms. Parker, do you have any

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information in that regard?
MS. PARKER: Your Honor, it's not a Reynolds document, I can't speak to that, but Mr. Acosta is not a witness.
THE COURT: Don't speculate. Please continue.
BY MR. ACOSTA:
Q. It states: "Research is a worthwhile and economic activity. There is a minimum level of nicotine. Smoking is an addictive habit attributable to nicotine and the form of nicotine affects the rate of absorption by the smoker."
Now, Reynolds eventually did do some research into the absorption rates of nicotine, didn't they?
A. No. In fact, the rate of absorption of nicotine from cigarette smoke is extremely fast. And we've not done any absorption rate studies at Reynolds.
Q. Well, let me ask you a question, fast as compared to what?
A. It's just extremely fast. Over a matter of seconds, nicotine can, in fact, get through the blood stream into nicotinic receptors in the brain.

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Q. By inhaling a cigarette?
A. Yes.
Q. Cigarette's unique in that respect; isn't it?
A. In respect to what? Have fast absorption?
Q. Getting nicotine to the brain.
A. As opposed to the nicotine patch?
Q. Patch. Fast, yes.
A. Absorption of nicotine from cigarette smoke is faster than that from a nicotine patch, no question about it.
Q. Let's go to Plaintiffs' Exhibit 935. This is another Brown & Williamson document.
Comments on nicotine.
Comments on nicotine.
"A meeting was held on June 30 to discuss past research on nicotine."
And it identifies who was there.
I want to read this paragraph to you.
"The purpose of the meeting was to discuss the results of project Mad Hatter and HIPPO, and to stimulate, further discussion on the importance of nicotine to the industry."
Do you recall what project HIPPO was?

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A. No, not exactly.
Q. Do you remember that it was a study about nicotine?
MS. PARKER: Objection, Your Honor.
THE COURT: Sustained.
MR. ACOSTA: He said he didn't remember exactly, I'm just asking him --
THE COURT: He either remembers it or he doesn't.
BY MR. ACOSTA:
Q. Do you remember if it had anything to do with nicotine?
A. No, I've heard the term "HIPPO", I don't recall what the details of that project were. This was not a Reynolds project at all.
Q. Sir Charles stated -- started the meeting by saying that he had first brought out the concept that we are in a nicotine rather than a tobacco industry. And then set up the above projects to sell this concept to management.
Did Reynolds consider itself back in 1971 to be in the nicotine business rather than the tobacco business?
A. The company --
Q. Yes.

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A. -- did not consider itself to be in the nicotine business. Certainly one scientist or two scientists had similar writings to this and considered nicotine to be probably more important than it really is.

Q. Well, you have stated that -- haven't you stated that nicotine is very important to the cigarette?

A. Yes.

Q. In fact, it's of major importance; isn't it?

A. I would say it's very important. It's not the only reason that people smoke, however. There are a lot of other reasons.

Q. But it is the major reason; isn't it?

A. I wouldn't say it's the major reason. I would say it's an extremely important reason.

(Pause)

Q. Did you say just a minute ago that you did not think that nicotine was the major reason why people smoke?

A. I wouldn't say it's the major reason. I would say it's a major reason. It's certainly a very important reason.

Q. All right. It is a major reason then

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for smoking?
A. Yes.
Q. And that's why you put it in your cigarette?
A. No. Nicotine occurs naturally in tobacco. We don't put nicotine in cigarettes. We put tobacco in cigarettes and tobacco contains nicotine.
Q. Well, you make this reconstituted sheathe, don't you?
A. Yes.
Q. And when you make that, you take the nicotine out, most of it, true?
A. Take out a large fraction of the nicotine to -- in the processing of reconstituted tobacco as I've described -- what's it been now? Two days ago?
Q. Yeah. Then you put it back?
A. And then we spray back on the paper sheet made from the pulp left over.
Q. There's no reason why you couldn't use all of the tobacco in the sheet, is there?
In other words, you just use the stems and the twigs and the little pieces that are left over?

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A. It's mainly pieces of tobacco leaf that are too small to be made into cigarettes. The purpose of the G7 originally was to make it into bigger pieces that could be made into cigarettes.

So it's -- it's largely tobacco leaf lamina, we call it, that's too small; and there are some stems added to help make a strong sheathe.

Q. And you set the amount for a given cigarette, the amount of nicotine that's going to be in it; true?

A. No, we set the amount of nicotine and tar that's yielded from the cigarette.

Q. All right. Nicotine and tar, but you set the amount because some cigarettes have one amount and another cigarette that Reynolds sells might have a different amount?

A. Well, I think that's exactly the point. We offer a range of products at different tar and nicotine yields. There's full-flavor, lights, ultra lights, lowest.

Q. And you determine how much nicotine is in each cigarette so that you can offer this range, true?

A. No.

Using the -- using the general

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reduction techniques that we've already talked about, those are the controlling factors that determine how much tar and nicotine is yielded from this cigarette. It's not the nicotine that's in the tobacco -- that's in the tobacco rod.

So, if you look at all cigarettes across the market, pretty much all of the tobacco rods -- the tobacco rod portion has about the same amount of nicotine, roughly.

But it's through filtration, air dilution, expanded tobacco, reconstituted tobacco and everything that we're able to adjust and have different ranges -- or a full range of yields of tar and nicotine.

Q. And Reynolds chooses to do that?

A. Of course.

Q. And you've mentioned that you have undertook to determine whether you can have a low tar nicotine -- I mean a low tar cigarette with low nicotine or a low tar cigarette with medium nicotine. I think you used the word "medium nicotine" didn't you, on direct?

A. What do you mean we've determined --

Q. Well, in designing a cigarette, you can design a cigarette that has low tar and low nicotine,

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and you can design one that has low tar and what you call medium nicotine; do you remember your testimony?

A. Sure, it's technically -- if you remember all of my testimony, you'll remember that all of -- all of the work that we've done on medium nicotine, low tar has shown that technically it's possible to achieve that.

In all that work, through multiple projects, XGT, GT, even today's Russell cigarette, we have yet to make that consumer acceptable. But we're -- we keep trying because if we're successful, that probably is a reduced risk cigarette.

Q. Well, back in the -- in the 1950s the Camel had 2.9 or 2.8 or something along those lines of nicotine, true?

A. That's approximately right.

Q. And then you reduced the amount, true?

A. We reduced the yield through the -- by virtue of the different cigarette designs that we invented and developed, so that today the sales weighted average has gone from about 2.8 or thereabouts or right -- right under three, down to about .9.

Q. The yield being what the smoker gets?

A. The yield being what comes out of the

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cigarette under standardized smoking conditions.
Q. Which, as we've discussed, the smoker can adjust by compensating unconsciously?
A. Individuals can -- can and do compensate, but not fully. By virtue of puffing harder or lighter, larger puffs or smaller puffs, any individual can get more or less than what the FTC tar number is. But the FTC tar numbers are useful in providing a comparison. They -- they provide a comparison for smokers to choose among cigarettes in the marketplace.
Q. Now, did -- do you recall Reynolds, back in the '60s or '70s, trying to seek a minimum level of nicotine to put in a cigarette?
A. I think there are documents that speak to that, yes.
Q. For example -- and you recall, the other companies were doing the same thing. Let me show you Exhibit 1380, Philip Morris, 1964, regarding the 1965 cigarette.
Philip Morris said that nicotine delivery levels should be .7 milligrams, minimum.
MS. PARKER: Your Honor, could the witness see whatever it is?
MR. ACOSTA: Oh, I'm sorry. I didn't

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have that on there. I thought it was on the screen.

BY MR. ACOSTA:

Q. Did Reynolds ever conclude that .7 milligrams should be a minimum amount?

A. No, Reynolds never concluded that there is a minimum delivery level. I think some scientists have suggested there probably is. And, for example, one scientist, Claude Teague, Dr. Teague, had suggested that a minimum level ought to be 1.3 milligrams, not .7.

Q. Which would be more.

A. Which would be more. And that was based on what was acceptable in the market. The fact is today, the average is .9 and we sell a lot of cigarettes that are much, much less than that, even down to .1 or less --

Q. So --

A. -- milligrams per cigarette.

Q. So, when it says delivery level, what's being discussed is how much nicotine is actually delivered to the smoker through the design of the cigarette?

A. What's being discussed here in every case is the yield level under some standardized

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smoking condition.
Q. Let me show you Plaintiff's Exhibit 1737 -- let me make that a little bigger for you.
First of all, it's dated May 24th, 1971, to Dr. Murray Senkus by A.H. Laurene. Was A.H. Laurene a doctor at -- at Reynolds?
A. Yes, he was a chemist.
Q. A chemist. And he was one of the scientists there in 1971?
A. Yes.
Q. Is he still there?
A. No.
Q. How about Dr. Murray Senkus? We've discussed him previously, he's the research and development director?
A. He was the research director.
Q. Yeah. And when did he leave?
A. Oh, gee. I would say late '70s, early '80s. I can't recall exactly.
Q. What does habituating level mean?
A. I'm not sure what Dr. Laurene is meaning by habituating level; I don't know.
Q. Have you seen that term used in other Reynolds documents, habituating level?
A. I think there are a few, but not many

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documents that talk about habituating level. It's not a term that we use at Reynolds. It's not -- certainly not a term that we use in cigarette design or product development.

Q. It's not?

A. No, it's not.

Q. Never has been?

A. Not to my knowledge.

Q. Not to your knowledge, okay.

You've not seen that -- that term in other documents at Reynolds?

A. I just said in response to the very last question, that I have seen it in some other documents. Okay? But I'm telling you, it is not a term that we need or use. We do not use that term in the course of our job as product developers or cigarette designers.

Q. Since you've been there?

A. Yes.

Q. Which was 1977, '78?

A. Yes.

Q. Okay.

Let me show you this document by Dr. Teague in 1972.

It's Plaintiff's Exhibit 1742, research

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planning memorandum on the nature of the tobacco business and the crucial role of nicotine therein.

What is the -- what is meant by "crucial role of nicotine therein"?

A. Well, I've read a lot of Dr. Teague's documents. And, in fact, this is one of the documents I was referring to in my last answer.

Dr. Teague viewed nicotine as the only reason people smoked. He was a chemist. And he -- and let me finish please. And he viewed nicotine as the only reason people smoked and -- and consequently went off and developed a number of research proposals or think pieces suggesting directions for the company to take.

Q. Now, this is the same Dr. Teague that was hired back in 1953 and did that survey of the literature regarding cancer and cigarette smoking; true?

A. It's the same Dr. Teague that published the 1953 internal report that reviewed the smoking and health literature.

Q. So, by this time, Dr. Teague had been with the company 19 years? 1972?

A. That's about right. I'm not sure of the exact date that he was hired, but that's

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approximately right.
Q. And at this time in 1972, he was an assistant director of research and development or was he a director by then?
A. I don't recall what his title was in 1972.
Q. He ultimately became a director at some point in the '70s; is that true?
A. He became a director. I don't recall exactly when.
Q. Did -- did Dr. Senkus progress beyond direct -- being a director?
A. Not -- I don't think so; he retired.
Q. Do you remember Dr. Teague being the director of the research facility at some point in time in the '70s?
A. I remember Dr. Teague being responsible for the facility itself, which meant he was responsible for the building and the -- and the operation of the research building.
Q. Okay.
This -- Dr. Teague states, in a sense, the tobacco industry may be thought of as being a specialized, highly ritualized and stylized segment of the pharmaceutical industry.

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That would be the drug industry, wouldn't it?
A. Yes.
Q. "Tobacco products uniquely contain and deliver nicotine, a potent drug with a variety of physiological effects".
Do you know what he means by a variety of physiological effects?
A. I really don't know what Dr. Teague means there. By the way could I have a copy of it, if you're going to ask questions on this?
MR. ACOSTA: Sure.
MS. PARKER: Your Honor, I object to the rule of completeness and ask Mr. Acosta to read an additional portion.
THE COURT: That's fine. Let's get a copy for the witness. And then after that you can read the whole -- the appropriate portions.
THE WITNESS: Thanks.
(Pause)
BY MR. ACOSTA:
Q. Dr. Teague, I'm going to -- excuse me, excuse me, Dr. Townsend, I'm going to read from the bottom of page 2, where it starts the habituated user

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through the end of that paragraph.

"The habituated user of tobacco products is said to derive satisfaction from nicotine. Although much studied, the physiological actions of nicotine are still poorly understood and appear to be many and varied. For example, in different situations at different dose levels nicotine appears to act as a stimulant, depressant tranquilizer, psychic energizer, appetite reducer, anti-fatigue agent, or energizer to name but a few of the very and often contradictory affects attributed to it. Many of these same affects may be achieved with other physiologically active materials such as caffeine, alcohol, tranquilizers, sedatives, euphorics, and the like. Therefore, in addition do competing with products of the tobacco industry, our products may in a sense compete with a variety of other products which -- with certain types of drug action. All of these products, tobacco and other, appear to have certain common attributes in that they are used largely to relieve in one way or the another the fatigues or stresses which arise in the course of existence in a complex society".

Did I read that correctly, doctor?

A. I believe you did.

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Q. Now, let me ask you this question: You testified that there's no such thing as a safe cigarette.

Is there such thing as a safe cup of coffee? Or no such thing as a safe cup of coffee?

A. I don't know if there's any risks to coffee drinking or at what level of consumption might be considered a risk. I have no idea.

Q. Now, the next page I want to read from, it says "happily, for the tobacco industry, nicotine is both habituating and unique in its variety of physiological actions".

Why would it be happily for the tobacco industry for nicotine to be habituating and unique in its variety of physiological actions?

A. I don't really know what Claude Teague meant when he wrote a lot of this. I do know that Teague was speculating based on his -- his belief that nicotine was the reason people smoked, without question. And then he went on to speculate on a number of other things and then ultimately proposed some research that needed to be done for products that would reduce risk. I don't know exactly what he meant in a lot of his terminology.

Q. Well, this was a scientific paper that

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Dr. Teague wrote at Reynolds while he worked there, wasn't he?

A. This was actually one of these think pieces that I referred to where he goes through, builds the case, if you'll notice in many cases he uses the word if. So he sets up a hypothesis and then he says if -- the next paragraph down, "if nicotine is the Sinai quinone, meaning if nicotine is the only reason that people smoke, essentially is what he was trying to say.

Then he goes through, "if what we have said about the habituated smoker is true, if as proposed above nicotine is the Sinai quinone. So he's setting up a hypothesis. And then ultimately proposes a median low tar cigarette and talks about the virtues of that. This is a think piece which basically amounts to a qualitative research proposal.

Q. He doesn't say if nicotine is habituating anywhere in this, does he?

A. I just read a case where he did. If what we have said about the habituated smoker is true, then the product should be designed for him and should emphasize, nicotine, nicotine delivery efficiency, nicotine satisfaction and the like.

Q. Doesn't that read that he is assuming

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that the smoker is habituated? He doesn't say if he's habituated, he says if what we say about him is true.

A. He is assuming that in setting up his hypothesis, a scientific method. You set up a hypothesis. This is the hypothesis that he set up. Then he's ultimately saying if that hypothesis is true, which he then never tested, he never tested that hypothesis, but if it were true here's the type of product, a medium nicotine, low tar, that makes sense to pursue from product development.

Q. And that's based on the assumption that the smoker is habituated; correct?

A. Well, once again that's an assumption that's made in setting up the hypothesis.

Q. And that's the assumption that Dr. Teague made; correct?

A. That's the assumption that Dr. Teague made in this research proposal in 1972.

Q. And that was the assumption Dr. Laurene made in the previous exhibit in consultation with Dr. Senkus; true?

A. I don't remember that document exactly --

Q. Habituating level, how low can we go.

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A. Yes, I remember that language.
Q. Now, it says it is safe to assume that nicotine will retain its unique position throughout the present ten year planning period and probably for a much longer span of time.
Is Dr. Teague telling us that he thought that nicotine would remain an important element of cigarette smoking for a much longer span of time, into the future? And that it was important to design cigarettes with that in mind?
A. I think anyone can interrupt this a number of different ways. Actually I would interpret it probably similarly to the way you have.
Q. Okay. In fact that's what he went on to say, and we'll just substitute the words -- can we substitute the words essential for Sinai quinone?
A. That would be one substitution.
Q. If nicotine is the essential of tobacco products, and tobacco products are recognized as being attractive dosage forms of nicotine, then it is logical to design our products and where possible our advertising around nicotine delivery rather than flavor".
So, Dr. Teague then feels that nicotine is an important ingredient for -- in terms of the

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development and design of the cigarette; true?
A. I think you've understated that. I think Dr. Teague is saying that it's the essential ingredient for cigarette smoking. And there's some things that we ought to do about that such as -- well, you just -- you just read this portion. Like advertising around nicotine delivery, rather than flavor, obviously something that never was done. And also ultimately proposing product development for meeting medium nicotine, low tar.
Q. Now this was a confidential document at Reynolds; true?
A. This is an internal document at R.J. Reynolds.
Q. Later the Surgeon General determined that nicotine was provided through a cigarette in a dosage form; true?
A. In a dosage form?
Q. Dosage form. That's what a cigarette is, it provides a dose of nicotine to the smoker; doesn't it?
A. The Surgeon General determined that nicotine was provided by a cigarette in a dosage form.
Q. Providing a dosage form of nicotine to

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the smokers?
A. I don't understand what that means. Everybody is always known that nicotine is yielded from a cigarette at some level. And that level depends on how the cigarette is built. Is that what you're calling dose?
Q. No. Does is a word that you would use with respect to a drug; isn't it?
A. I think in -- in the pharmaceutical industry, dose is a term of art, yes.
Q. So he's referring to nicotine as a dose as if it's a drug, would that be a fair interpretation of it?
A. Are you referring to the Surgeon General?
Q. No, I'm referring to Dr. Teague.
A. He may be, yes. Again I can't crawl inside his head.
Q. Excuse me, I didn't mean to interrupt you.
A. Thank you. I said I can't crawl inside his head, but it may be the way he interpreted it.
Q. You agree that the Surgeon General has determined that nicotine is a drug and it's provided to the smoker in dosage forms through the cigarette,

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as a dosage form, a form of dose?
A. Yes. I think the Surgeon General's decided that.
Q. Okay. Now -- and I -- Dr. Teague goes on to say, "to do it, to do this design of our products, and where possible, our advertising around nicotine delivery, rather than flavor, to do this, we need to develop new data in ways of enhancing or diminishing nicotine effects and satisfaction. In the absence of such data we may survey the market and conclude that current cigarette products delivering about 1.3 milligrams of nicotine appear to satisfy the typical smoker. This somewhat crudely establishes a target dosage level for the design of new products".
Do you remember on direct talking about a gap in the product line that Reynolds had back around that time and that there might be a need to fill that gap with a special tar and nicotine ratio cigarette?
A. Yes.
Q. And that turned out to be -- what -- what was the yield of nicotine in that cigarette; do you remember?
A. Well, again that was a Dr. Teague memo,

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and I think he was also recommending 1.3 milligrams.
Q. Now, it's come down to an average of .9 milligrams, I believe you say?
A. That's right.
Q. And does that mean that the smoker is satisfied, the average smoker is satisfied with less nicotine than Dr. Teague thought he needed back in 1972?
A. Basically that's correct. In 1972, it's clear from this document that Dr. Teague looked around the products that were successful in the market then, the average was about .13 milligrams of nicotine. So he said, hum, that's probably the right level of nicotine yield from a cigarette for the smokers to be -- have these cigarettes consumer acceptable.
Today the average yield is about .9. And many smokers smoke much lower yielding nicotine -- nicotine yielding cigarettes.
Q. Then Dr. Teague goes on to say, "Does not start smoking to obtain undefined physiological gratifications or relief" -- well, let me back up so this makes a little context.
"Before proceeding too far in the direction of design and dosage forms for nicotine, it

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may be well to consider another aspect of our business; that is, the factors which induce a pre-smoker to become a habituated smoker."

What are the factors that induce a pre-smoker to become a habituated smoker, Dr. Townsend?

A. I have no idea. Again this is Dr. Teague's think piece. I have no idea.

Q. Did Reynolds attempt to induce pre-smokers to become smokers?

A. I've already answered that question. And the answer is absolutely not. Our goal is to steal customers from our competition. Particularly Philip Morris and Brown & Williamson. It is not to cause people to start to smoke. Smoking is risky. And it is not -- it is not something that Reynolds has done to try to cause people to start to smoke. And it is not something that we do, period.

Q. It's not a -- you don't market your cigarette to encourage people to start smoking then, is that what you're telling us?

A. I just answered that question, absolutely not.

Q. Okay. Then it goes on to say. "Paradoxically the things which keep a confirmed

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smoker habituated are unknown and/or largely unexplained to the non-smoker."

Do you know what he's talking about there?

A. I think you're not reading -- you're not reading the full sentence.

Q. Huh?

A. You're not reading the full sentence.

Q. Well, I left something out of the middle.

A. Yeah.

Q. But I'll be happy to read the whole thing. Let me find that.

"Paradoxically the things which keep a confirmed smoker habituated and quote "satisfied" end quote i.e., nicotine, and secondary physical and manipulative gratifications are unknown and/or largely explained -- unexplained to the non-smoker."

Okay.

Does -- is nicotine the thing that satisfies the smoker?

A. For some smokers it may be -- it may be a major reason why cigarettes were satisfying.

Q. Okay.

A. I think for other smokers it may be

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different.
Q. And he suggests that the non-smoker doesn't know what those are and are unexplained to him. Is that because the non-smoker has not experienced nicotine habituation?
A. Well, I read this sentence, those things that he's referring to, which is the things that in his words "keep a confirmed smoker habituated and satisfied such as i.e., nicotine and secondary physical manipulative gratifications. That -- that information is first of all unknown and/or largely unexplained to the non-smoker." That's what he says.
Q. He goes on to say "Only after experiencing smoking for some period of time do the physiologic satisfactions and habituation became apparent and needed."
When he says "needed" is he referring, in your mind, as you understand this, to nicotine?
A. I certainly could make that assumption.
Q. The next page and I -- if you want me to read the whole sentence, I will. I started out with smoking experiences are often unpleasant.
MS. PARKER: Your Honor, the rule of completeness, I would like Mr. Acosta to read the bottom of page 4, he skipped.

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THE COURT: Mr. Acosta.
BY MR. ACOSTA:
Q. All right. "He does not start smoking to obtain undefined physiological gratifications or release, and certainly he does not start to smoke to satisfy a non-existent craving for nicotine."
Do you agree that nicotine causes a craving, Dr. Townsend?
A. I don't know that I would call it a craving as such. It's not a word that I would use.
Q. Have you ever heard other people use the word craving?
A. Sure.
Q. Such as the Surgeon General?
A. Well, I don't know about the Surgeon General, but I have certainly heard other people call it that.
Q. "Rather he appears to start to smoke for purely psychological reasons, to emulate a valued image."
Would a valued image being Mickey Mantle, in your mind?
A. I don't know.
Q. How about Roger Marris?
A. I have no idea.

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Q. How about Robert Young?
A. I don't know.
Q. William Holden?
A. I don't know.
Q. John Wayne?
A. I'm not sure what you're looking for.
Q. Well, what is a valued image to conform to, to experiment, to defy, to be daring. Let's go back to valued image. What is a valid image in your mind?
A. In my mind or what do I think he was trying to say?
Q. What did Dr. Teague mean by to emulate valued image?
MS. PARKER: Your Honor, objection.
THE COURT: Sustained. Ask another question.
BY MR. ACOSTA:
Q. It goes on to say, "To conform, to experiment, to defy, to be daring, to have something to do with his hands and the like. Only after experiencing smoking for some period of time do the physiological satisfactions and habituation become apparent and needed.
Indeed, the first smoking experiences

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are often unpleasant until a tolerance for nicotine has been developed."

Do you think Dr. Teague uses that term in a different context than you testified about earlier?

A. I think that's possible.

MS. PARKER: Objection, same objection.

THE COURT: Are we almost finished with this document, Mr. Acosta?

MR. ACOSTA: We're two-thirds of the way through it, I think.

THE COURT: Does that mean less than two minutes on the other third?

MR. ACOSTA: I think it's going to take longer than that. We can come back on this, Judge.

THE COURT: Then that means we're going to recess for today.

Ladies and gentlemen, thank you very much. We will see you tomorrow morning at 9:00.

(Thereupon, the jury was excused at 12:59 p.m.)

THE COURT: All right. The Court will be in recess till 2:30. Other than before I

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recess, I'm going to just talk to the -- Mr. Acosta, and Ms. Parker. You're free to step down. You are still testifying.

THE WITNESS: One point, Your Honor, may I?

THE COURT: Well, ask Ms. Parker first and then --

THE WITNESS: I just want to remind the Judge, that Friday we have surgery with my wife.

MS. PARKER: Your Honor, I mentioned that last week.

THE COURT: That's fine. You'll be -- you'll be here tomorrow and you may be here next Friday, but Friday you're free.

All right. Court is otherwise in recess except for -- come on up.

All of the objections on questions saying what did Claude Teague mean are going to be sustained unless there hasn't been any establishment that they talked and he gets some insight. So every time Ms. Parker -- I'm going to sustain all those objections so we can -- and I say that so that we can kind of make our way through some of this a little

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more expediently because I was -- he -- this witness won't know unless there is some foundation that you can lay, that he actually talked to Teague about this document that's different.

MR. ACOSTA: I agree, Judge. I was getting tired and it was hard for me to formulate the questions. I thought -- I thought what was happening was that the objection was because of an argument and I didn't mean to do that.

THE COURT: I'm just telling you that I'm sustaining all of Ms. Parker's objections on what did -- what did somebody else mean other than the witness unless you lay a foundation, just so that -- so that ties in and then I'll see you all at 2:30.

MS. PARKER: Thank you, Your Honor.

MR. ACOSTA: Thank you.

(Thereupon, the lunch recess was taken at 1:00 p.m.)

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COURT REPORTER'S CERTIFICATE

STATE OF FLORIDA )
CIRCUIT OF HILLSBOROUGH )

I, SHERRILL LYNN JACKSON, Court Reporter for the 13th Judicial Circuit of the State of Florida, in and for Hillsborough County,

DO HEREBY CERTIFY that I was authorized to and did report in shorthand the proceedings and evidence in the above-styled cause, as stated in the caption hereto, and that the foregoing pages numbered 2111 to 2282, inclusive, constitute a true and correct transcription of my shorthand report of said proceedings and evidence.

Dated this 28th day of November, 2001.

_____
Mary Elizabeth Blazer, RPR

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